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Portland and Ogdenburg Railroad line. 1872

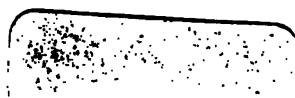
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THE
Portland and Ogdensburg
RAILROAD LINE.

Eastern Division. Vermont Division.

THE RESOURCES, POPULATION, WEALTH, BUSINESS, MANUFACTURING
CAPABILITIES, AND TOURIST ATTRACTIONS OF THE
COUNTRY TRIBUTARY THERETO.

ALSO,

ITS RELATIONS TO THE TERRITORY AND COMMERCE

OF THE

G R E A T L A K E S .

PORTLAND:
PRESS OF BROWN THURSTON.
1872.

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* Note from Eastman's White Mountain Guide Book.

THE

Portland and Ogdensburg

RAILROAD LINE.

Eastern Division. Vermont Division.

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OF THE

GREAT LAKES.

PORTLAND:

PRESS OF BROWN THURSTON.

1872.

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1872. Mar. 20

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Subland Warden, Bureau
of Portland.

PART I.

GENERAL VIEW

OF THE

PORTLAND AND OGDENSBURG RAILROAD COUNTRY.

CHAPTER I.

RESOURCES AND BUSINESS RELATIONS.

SECTION I.—A RAILROAD WANTED.

AT the date of the inception of the Portland & Ogdensburg Railroad line, the case stood thus:—a tract of country one hundred and seventy miles long by fifty broad, had, except at the extreme ends, and at one point across the middle, no railroads. The region referred to extends from Portland, Maine, and the adjacent coast, to northern Lake Champlain; being bounded on the north-east by the Grand Trunk Railroad, and on the south-west by several parts of lines, which, as a whole, are parallel to the Grand Trunk (see map). Its area is 8,500 square miles; three hundred square miles larger than the combined States of Connecticut, Rhode Island, and Delaware, in which 1,080 miles of railroad are now in operation. What railroads there were in the district gave outlet to but a very small portion of it, and that at a trade center

(Boston) comparatively remote, to and from which, accordingly, every movement of persons or merchandise was effected at the waste of time and money.

(a) *The Vermont Division.*

The territory in question, in one-half thereof, to wit, northern Vermont—extending on the line of rail from the Connecticut river to Lake Champlain—has long been distinguished for its *fertility*, for a fertility far beyond the average of New England, a fertility covering the *whole* surface, not excepting the hills and mountains. It is also well furnished with *lumber*, the cutting-off of forests having been checked in time past by the lack of railroad transportation. In a given portion of the territory in which careful investigation has been made, 350,000 acres of timber-land are found, against 456,000 of tillage and pasturage. It is rich, likewise, in minerals, in building and ornamental stones, roofing-stone, ores, lime, etc. It has important water-power. Numerous privileges on the Passumpsic, Moose, Lamoille, and Missisquoi rivers, and on smaller streams, afford excellent facilities for manufacturing.

The territory is, moreover, for one so cramped in its means of communication, already *densely peopled*. In the towns contiguous to the Vermont Division of the Portland & Ogdensburg Railroad line, and certain to do their business over it, either wholly or in large part, there are eighty thousand inhabitants. In addition, the population of twenty-seven towns, numbering 34,315, on the Passumpsic Railroad, both north and south of St. Johnsbury, will be attracted to Portland for more or less of their business, on account of its comparatively close proximity. To these should be added several thousands more on the Vermont & Canada Railroad, who, *via* the Burlington branch of the Portland & Ogdensburg Railroad line,

can save fifty-six miles travel in the round trip to Portland as against Boston.

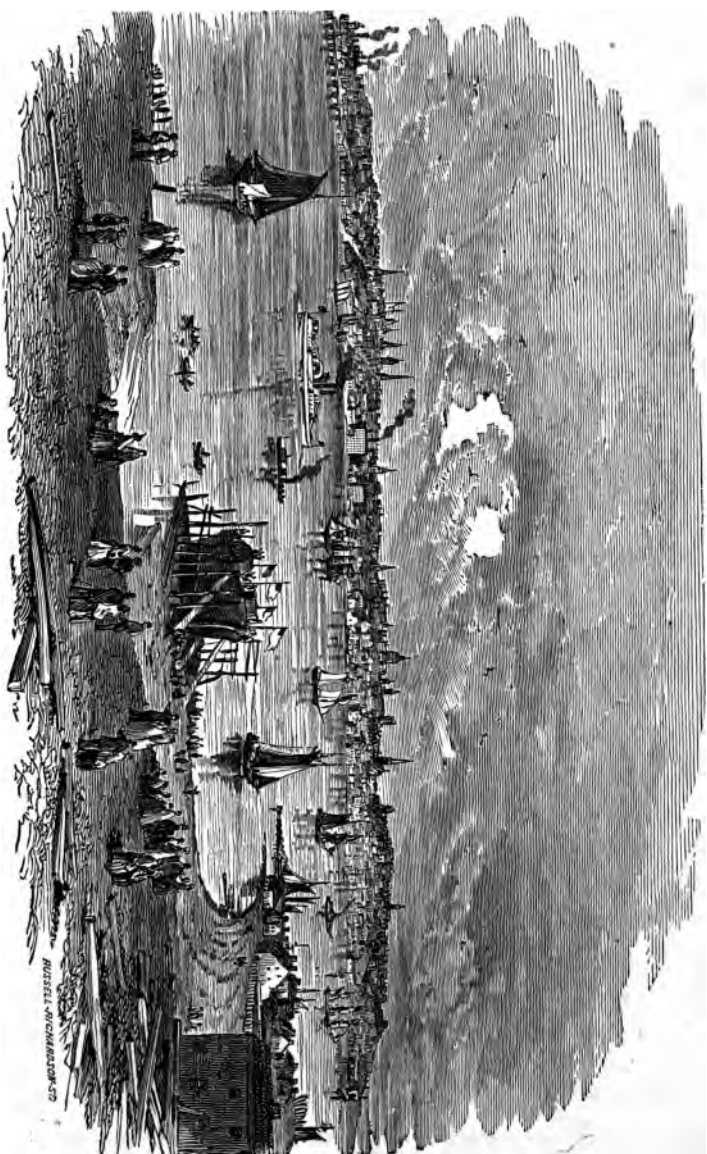
The country, too, is already *wealthy*. The nominal valuation of property upon the Vermont section of the road, for the purposes of taxation, is about \$27,500,000. Its real value is unquestionably in excess of \$55,000,000. This includes simply the main line and the Burlington branch, and gives an average property of \$687 to each member of the population. The estimated average property of each individual in the United States in 1860 was \$451.26. In addition, the towns on the Passumpsic Railroad that will do more or less business on the Portland & Ogdensburg Railroad line, have property to the amount of \$23,914,000. Under the operation of the leading occupation, dairy farming, the lands throughout the district are constantly growing richer, and by consequence the bulk of property growing larger. This is patent to the observer in the number of new buildings, new and large barns, with the latest improvements, going up in all the region. The opening of the road will add fifty per cent. to the value of land and buildings, upon the average.

The movement of freight to and from the territory, is already surprisingly large, in consideration of the lack of railroad facilities. In the year 1870, the towns situated upon the main line, not including the Burlington branch, and including those whose business will beyond peradventure come upon the Portland road, received and shipped of merchandise as follows: lumber 5,000 tons, butter 1,580 tons, pork 392 tons, cheese 269 tons, wool and hops 131 tons. There were also sold of cattle 10,500, sheep 14,000, live hogs 4,270, horses 1,225, and of potatoes, for food or starch, 245,000 bushels. There were also of outward freight, not included in the above, 32,305 tons, and of inward freight 51,695 tons. The year specified was nowise exceptional. The whole tonnage, ac-

cordingly, of this region, though without railroad facilities except at two points, rises to the surprising sum total of 122,000 tons per year. These figures are based upon actual and thorough inquiry in nearly every school district along the line, and upon the testimony and accounts of merchants, manufacturers, producers, produce forwarders and assessors. A large proportion of this freight will seek tide-water in one direction, and will be drawn from seaboard warehouses in the other. Its movement will, for reasons presently to be set forth, be to and from Portland, and over, accordingly, the Portland and Ogdensburg Railroad line. If so much as one-fourth of it were passed once between a midway point of the Vermont Division of the Portland and Ogdensburg road and Portland, it would yield a gross revenue of \$181,520.

(b) *The Eastern Division.*

The other half of the territory bordering the Portland & Ogdensburg Railroad line, namely, that extending from Portland to the Connecticut river, is distinguished for its extraordinary facilities for manufacturing,—manufacturing upon a great scale, at numerous closely associated points, by the aid of the cheapest of motors, water-power. The Presumpscot river, in particular, offers facilities altogether unrivaled; its immense reservoirs, summing ninety-four square miles, of which fifty square miles are commanded by one dam, giving to its power the reliability of steam. The privileges upon the Saco are likewise first-class, as is also the great power upon the Connecticut at the crossing of the road. Indeed, within the territory traversed by the line in Maine alone, there are over one hundred sites for manufactures. This feature, combined with an average productiveness in the soil, is certain to secure to this portion of the territory a large increase of wealth and population. The sites are so comparatively near the seaboard and market



PORTLAND.

as adds greatly to their value. The railroad having gone into operation by the side of quite a number of these privileges is already bringing some of the larger into use, to be noticed subsequently. There is also a vast amount of lumber in the district, waiting transport to market. One-half the country from Portland to the Connecticut river is covered with woods. As much lumber is now cut upon the Saco river as forty years ago. There are 400,000,000 feet of uncut lumber about the head-waters of this stream, and a great growth of hard-wood additional. Between the White Mountains and the Connecticut river, it is estimated, six to nine hundred millions of lumber can be counted upon for transportation. Its removal will furnish large business to the railroad for many years.

The towns that will be tributary to the road east of the mountains, including Portland, have a population of 73,313. The nominal or taxable valuation of the same is about \$42,000,000. The real value of property is nearly double this amount. The total number of towns is twenty-five in Maine and four in New Hampshire. Beyond the mountains are twelve towns in New Hampshire with a population of 13,929, and property to the amount of \$9,568,000, either lying directly upon this road or connecting with it by the White Mountains Railroad, that will find their shortest and cheapest way to market over this line.

Without further detail, it is evident that in the great territory in question *a railroad was wanted*, and is still wanted where it is not already completed. The details and particulars given in the Appendix to this document show to a demonstration the need of better facilities of access and exit, of sending out produce and bringing in merchandise. Whatever is in general claimed to result from the building of railroads through a region previously unfurnished, in stimulating all forms of in-

dustry, in quickening agriculture, setting manufactures in motion, in augmenting that various activity which creates wealth and augments population, is conspicuously taking effect in the portion of the territory already opened by this railroad.

SECTION II.—TO WHAT POINT A RAILROAD WAS WANTED.

A line from Portland, on Casco bay, to Swanton, on Lake Champlain, divides the zone of country to which reference is had, into almost equal parts, in the direction of its length from end to end. A railroad built upon that line affords the nearest approach, and beyond comparison the best local facilities of access and exit, to the far greater number of towns situated in the entire region. A road built upon any other line, or in any other direction, will not be within equally easy reach of the great body of the towns that now have nothing worth calling railroad accommodation.

More than this, a road upon this line will afford the territory, taken as a whole, the best possible outlet to the world at large and to the sea. With the map before him the reader will perceive that the territory, in no part, eastern, central, or western, can get access to salt water, and by consequence facilities for the diffusion of its products and for the import of its merchandise, at any other point than Portland, without incurring longer routes of travel, longer lines of transport, more oppressive rates for fare and freight. Let any other point be selected, Portsmouth, Salem, Boston, or elsewhere, and the burden grows greater as the distance from Portland is greater. Hence it is that the White Mountains, Passumpsic, and Vermont and Canada Railroads, penetrating the territory under consideration, while affording accommodation infinitely better than none, do nevertheless afford but imperfect accommodation to their respective outlying territories, because compelling

them to do business in a market unnecessarily remote, and to pay fares and freights over unnecessarily extended lines.

Take the points, for example (see map), where the railroad from Portland crosses lines from Boston, and observe the distances :

	DISTANCE TO PORTLAND.	DISTANCE TO BOSTON.	DIFFERENCE IN FAVOR OF PORTLAND.
	Miles.	Miles.	
Whitefield,.....	105	196	91
St. Johnsbury,.....	135	205	70
Swanton,.....	228	274 .	46

At these three points, accordingly, where Boston will have the best chance, or, as might be said, the only chance, in competition with Portland, she labors under the disadvantage of sixty-nine miles greater average distance ; under the disadvantage, by consequence, of \$4.14 heavier charge the round trip for each passenger, and of \$5.52 for each ton of merchandise moved forth and back once over her lines. Considering that expenditures of this sort are incessant, that they touch the convenience and purse of every citizen, it is easy to see how profoundly serious a matter is such a difference in distance to market as is denoted by the above figures.

But this is not all. The towns upon the Portland and Ogdensburg Railroad, with the exception of the three above mentioned, are separated from Boston by not only a greater length of rail, but also by an important length of roading. The following table illustrates the point for the Vermont Division, the towns being taken along the line in its length :

	DISTANCE FROM PORTLAND.	DISTANCE FROM BOSTON.	
	By Rail.	By Rail.	By Road.
Concord.....	127	205	7
Danville.....	144	205	7
Walden.....	150	205	15
Greensboro'.....	157	205	15
East Hardwick.....	159	205	22

South Hardwick.....	162	205	22
Wolcott.....	167	205	20
Elmore.....	170	205	20
Morrisville.....	177	217	18
Hyde Park.....	180	217	21
Cambridge.....	191	269	22
Belvidere.....	191	260	22
Fletcher.....	194	260	22
Bakersfield.....	194	270	14
Fairfield.....	205	270	7

The above towns, accordingly, are, on the average, 16.5 miles distant from Boston railroads by road. It will cost, on the average, \$3.30 to move a ton of freight over that length of highway. This sum would carry the same ton eighty-two miles on the way to Portland. On the *east* of the mountains the towns are, on the average, *twice as far* from railroads leading directly to Boston. It is easy to see, accordingly, to what point the business of the country will naturally tend, and from what warehouses its merchandise can be most economically drawn.

SECTION III.—WHERE THE BUSINESS CAN BE BEST DONE.

As regards distance forth and back, therefore, the territory now under consideration can be best accommodated at Portland, of all points situated upon tide-water. The inquiry next arises, can the business of this territory be conducted to advantage at Portland? That business divides itself into two branches,—the disposal of products, and the purchase of merchandise.

(a) *The Disposal of Products.*

Can the products of the country be worked off at and *via* Portland on favorable terms? The products referred to are those of the forest, the field, and the mine. Long lumber, shingles, clapboards, pickets, sugar-box shooks, hogshead



MALLISON FALLS.

shooks, staves, hoop-poles, and all varieties of cooperage stock, ship timber, masts, spars, bark and wood, cabinet and wagon timber, excelsior, paper-pulp stuff, and so on in great variety, are supplied in abundance from the greater part of the whole region.

The surplus products of the field have already been noted upon page 3, rising to the aggregate of many thousand tons for one division of the road alone.

Of the products of the mine, the chief articles are, marbles in large variety; granites, some of the best in the world; lime; soap-stone; hone-stone; copper ore, demonstrated of rich quality; and ochre,—details respecting all which will be given further on. To these should be added, as prospective products of the country, the various manufactures that must in due time spring up upon the great water-powers along the line, on the Presumpscot, the Saco, the Ammonoosuc, the Connecticut, the Lamoille, and the Missisco rivers.

The above products Portland, with her tributary country in Maine, can, in part, *consume*. All the pork, cheese, and wool that northern Vermont can spare are wanted in the Portland and Maine markets. Much of the butter is wanted, also. These products of Vermont farms, in fact, now reach Portland in large quantities through New York and Boston dealers. The producer could, of course, sell them to better advantage directly to the Portland trader, by the whole amount of commission paid to the middlemen, and by the amount, also, of freight and handling charges incident to such circuitous routes to market.

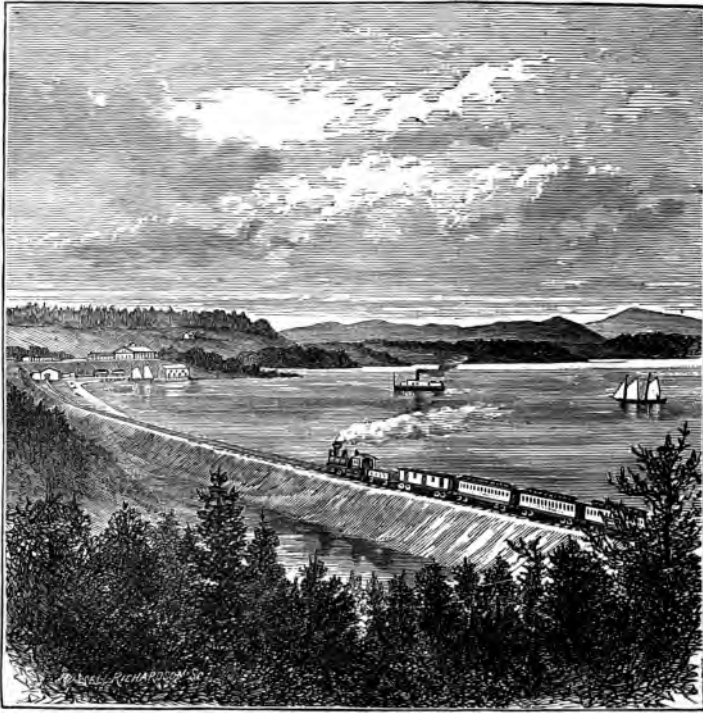
But Portland, with steamers to Boston and New York all the year, and to various points along shore, with coasters as required, and railroads everywhere, can *forward* from the area in debate, the lumber, marble, floor-tiles, copper ore, ochre, beef, mutton, butter, cheese, neat cattle, sheep, swine, and

the products of manufacture, to all markets as required, more cheaply than they can go by any other route. Portland will, before long, become one of the great lumber-distributing points of the country,—at once, indeed, upon the re-establishment of a reciprocity treaty; for at no point can shipment be made to better advantage of all the products of the forest, to Boston, New York, southern ports, the West Indies, and South America. Portland can send to the same markets one or two million bushels of potatoes from the Portland & Ogdensburg Railroad country, to excellent advantage. Penetrating in its whole length the best dairy region of Vermont, as well as a district in Maine well adapted to dairy business, Portland can become a distributing point for butter and cheese, with buyers on hand from all parts of the country, as now at St. Albans.

The local facilities of Portland for handling all sorts of freight, and for transfer from rail to ship, and ship to rail, with despatch and the minimum cost, are such as give her decidedly the advantage over any other port on the Atlantic coast. Her Marginal railway, already in operation for miles, and now going on to completion, with its branches upon wharves and to vessels' sides, and her dock-front extending, likewise, for miles, secure to her unequaled facilities. The profit of all this redounds to the producer, whose cost of getting to market is by so much reduced. He, accordingly, is interested to forward his goods by this route, to which he is invited at once by shorter lines of transit, and swifter and cheaper machinery of transfer.

(b) *The Purchase of Merchandise.*

In the second place, and as regards the purchase of merchandise, Portland can offer the buyer from any part of the territory lying upon the Portland & Ogdensburg Railroad, in



PAVILION BAY, LAKE SEBAGO.



Maine, New Hampshire, and Vermont, advantages equal to the best found anywhere. Take, for example, the dry-goods business. The principal jobbing houses in this department of trade now established in Portland do business upon abundant capital. They buy for cash. They command, accordingly, all the advantages of discount and otherwise, attached to this independent condition. They have a partner or representative at the great centers to take equal advantage with the best of any turn in the market, and to secure any desirable varieties of goods as early as the earliest. They have as large stocks of such goods as *find sale in New England* as their most competent rivals in Boston. They do as large a business, they sell as many goods, as the Boston wholesalers, so at least with two or three exceptions.

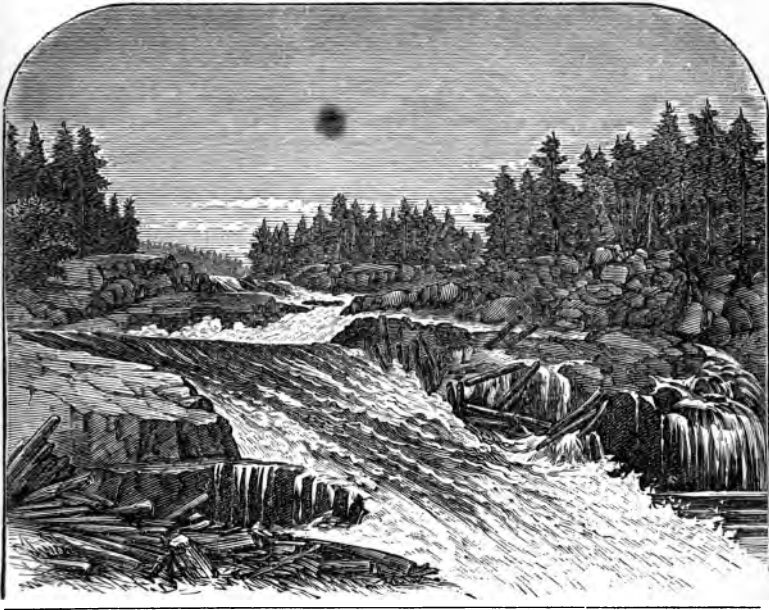
From early times Portland has been unsurpassed as a point for the advantageous purchase of groceries. In the import of molasses her rank has been third. All the structures and appliances for sugar boiling on a vast scale are found at Portland. Two sugar refineries, also, turn out products of unsurpassed excellence, which find market all over the country. Tea, coffee, tobacco, spices, and other groceries, are bought by the Portland wholesaler mainly in the same market, New York, that supplies the Boston dealer; are bought at as low price, are placed on the wharf at as small outlay for freight, and are handled, stored, and insured at a lower figure. The principal grocers do a business that would be large even in Boston; and though furnished with smaller stocks of single articles, they keep a larger *variety* than the Boston wholesalers.

Boots and shoes are manufactured in Portland for both men's and women's wear, especially the latter. Articles for men's wear are, however, largely made in the outlying country, labor being cheaper and hand-made goods being preferred.

The calfskins, cowhides, etc., employed in the heavier goods, are largely the product of Maine tanneries, some of which are among the largest in the world. The serges, etc., worked into the lighter goods, are bought directly of the importer, chiefly in New York, and at as low rate as by the Massachusetts manufacturer. The articles in demand in the Portland market, to which accordingly operations are adjusted in Portland manufactories, are of heavier stock, of more substantial make and better finish than the average goods prepared for Southern and Western markets. This style of goods is kept in Portland in as large variety and quantity as in Boston. It is the precise style of goods that the trader from Northern New England wishes to buy, and experience every day proves that he can buy them as advantageously in Portland as anywhere.

For salt and fish there is no cheaper market on the coast than Portland. Ships coming to this point to repair, attracted by its capacious dry dock and ample supplies of required material, make a frequent cargo of salt, brought for a trifle and instead of ballast. This port is also the grand depot for fishermen from all along the 2,500 miles of the coast-line of Maine. In fact, Portland is sending all the varieties of salted and pickled fish to Boston, New York, and all points West, constantly, and does it to a profit.

What is true of the foregoing staples of merchandise, is true also of hardware and cutlery, of drugs, paints, oils and lead, soaps, carriages, machinery and iron castings, malt products, rum and domestic wines, canned corn, fruits, fish, etc., glass-ware, stone and earthen ware, drain pipe, fancy leather and paper goods, hats, caps and clothing, furniture, lime, plaster, bricks, phosphates, etc. They can be bought certainly at as low price in Portland as elsewhere. The expenses of Portland dealers, manufacturers, etc., are much smaller than



GREAT FALLS OF THE SACO.

those of Boston or New York. Clerk hire, store rent, and other current outlays, are fifty per cent. less than in those cities. The account of expenses of a large and well managed dry-goods house in Boston, now before us, foots up double that of a house in Portland doing a much larger business. The cartage of flour in Boston is six cents per barrel, in Portland five cents. In Boston six cents will put flour in store, in Portland one cent. The cartage of a hogshead of molasses is fifty cents in Portland, one dollar in Boston. Charges for handling, cooperage, and insurance, are likewise proportionally less.

In view of these facts, in view of Portland's great advantage in point of distance, of her superior facilities for handling products, and equal advantages for forwarding them; in view of her ability to furnish merchandise at as low rate and of as large variety, as to all the staples of trade, it may be regarded demonstrated and placed beyond controversy that the business of the great territory now in reference will in the far larger proportion be done in Portland and over the Portland and Ogdensburg Railroad. No other supposition is indeed admissible upon ordinary principles of human action or of business procedure. How great weight all these considerations carry, and what demonstration in advance they involve, as to the bulk of business certain to be realized upon the opening of the road, will be appreciated only as the extent of territory is taken into account, its present but partial development, its natural resources in various forms, its already realized wealth, its population, their habits of living, their use of all the articles of comfort and luxury, their industry, their enterprise, and their instant appreciation of new avenues to profit and new facilities for business.

CHAPTER II.

TOURIST ATTRACTIONS.

THERE is no other section of country in the United States, the general survey of which as a field for railroad extension would require the distinct consideration of its attractions for the artist, the tourist, and the pleasure traveler, in equal measure with that now in review. These are, indeed, as here found, so remarkable, so characteristic and so varied, and already command such attention from all who journey for recreation, for health or pleasure, as to take rank side by side with the more material and economical features of the country as sources of prospective railroad revenue. Upon the belt of territory traversed by the Portland & Ogdensburg Railroad line, and at its termini, scenery is found in extraordinary variety, of ocean, bay, lake, mountain, valley, river, and waterfall, much of it of a character so remarkable as to have been celebrated in elaborate volumes by the pens of the most gifted writers, in dramas, poems, romances, and descriptive narrative, and to have been reproduced in scores of paintings by the pencils of the most skillful artists,—scenery that attracts travelers from every land and clime, and wrings, even from foreign and prejudiced tongues, testimony to its unequalled beauty and grandeur.

CASCO BAY, LAKE SEBAGO, ETC.

Casco bay at one extreme, with fifteen-score islands, some of them populous towns, and some wooded islets in the wildness of primeval nature, with its iron-bound shores and huge promontories of rock, its surrounding fields of green and its forests of fir, rivals the fairest of the archipelagoes of Greece

for romantic beauty. The Presumpscot river, fed by reservoirs exceeding thirty per cent. the capacity of Winnepiseogee, the grand feeder of the Merrimac, and broken by sixteen water-falls, offers to the eye objects of the most pleasing contemplation in its fertile valley, its villages, its mills busy with productive industry or rising in stately and magnificent proportions upon hitherto unused sites. Lake Sebago, with its outlying appendages, opens scenes of unique and admirable beauty along the whole course of its thirty-four miles of navigable waters; the passage, in particular, through the devious channel of Songo river, amidst the silence and dusk of surrounding forests, is an experience as novel as interesting. A little beyond, the Saco discloses its placid waters intermittently broken by rapids and falls,—“Steep Falls,” a noble water-power, and still above, the “Great Falls,” visible from the road, foaming over solid ledge in successive pitches through a total descent of seventy-two feet. Above, the great river plain of the Pequakets opens broadly upon the Saco, rich with ancient memories, and walled in upon the north and west with a vast bulwark of mountains, chief amongst them Kearsarge and Chocorua. Still beyond, the vales and ledges of North Conway surprise and almost perplex the beholder with their contrasting aspects of smiling fertility and austere and total barrenness. Beyond this point the mountains grow loftier, the valleys narrow to glens, rock displaces earth, and the country takes on a more stern and dreadful aspect as entrance is made into the

WHITE HILLS.

What the Yo Semite is to the West the White Mountains are to the East, the crown and consummation of majesty and beauty in the aspects of nature. Nothing can more strikingly evidence the effect of these mighty piles upon the eye and



MT. CHOCORUA.

the imagination, with their attendant "gulfs," "glens," and "abysses," than the fact that the stolid aborigine dreaded to visit them, and in fact to their most awful heights and depths never penetrated. Not even the miseries of stage-coaching over cruel roads has prevented 25,000 guests from reaching yearly six of the principal hotels in this region. Four times the number pass and repass about the base and upon the outskirts of the mountains. When, now, it is recollected that the nation is increasing in wealth and population as never before, recollected also that for all coming time there is to be but *one* White Mountain upland, it cannot be questioned that to these most romantic resorts an annually vaster host of devotees will year by year come.

At this point we take the liberty to quote from a letter in the *Portland Daily Advertiser*, Sept. 15, 1871: "The 'Crawford Notch,' with the tragic interest of the 'Willey Slide,' the view from Mt. Willard, and the vast uplift of mountains about it, must ever remain the one attraction without peer or parallel in all this region. Whatever else he omits, the tourist, going or coming, must visit this. The year the railroad opens through the 'Notch,' 100,000 passengers will go through it. The 'season' will double in length. The old, the feeble, invalids, business men not tolerant of whole days' staging, will visit the wonderful region, who never visited it before. This king's pathway through the mountains belongs to the Portland railroad. Other roads may go by humbler routes, such as remain. Go they will, for other communities will appreciate this prize of mountain travel. We shall soon see carriage roads and bridle-paths cut amongst the mountains and through their now impassable defiles, in all directions, and multiplied scenes of grandeur opened, which now are unseen and unknown; and hotels erected in size and number now not dreamed of, and the whole vast wilderness

made knowable and habitable to a great multitude of annual sojourners,—all this so soon as a railway is driven into and through its wilds. Open a railroad through the ‘Notch,’ and the summer travel alone, casting out the through business and the regular travel, will pay the interest on millions of dollars.”

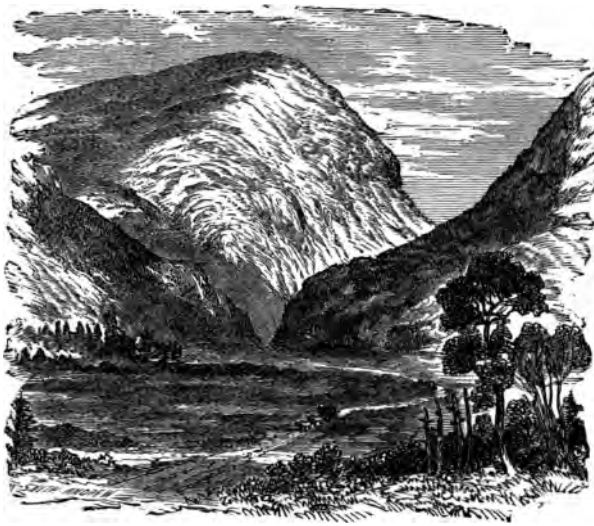
The testimony is concurrent that the approach to the mountains from no other quarter and by no other route can compare in interest with that by the “Crawford Notch.” In the same letter, the scenery in the vicinity of the road, in Vermont, is thus referred to: “The scenery of Northern Vermont has long been justly celebrated for its unique attractions. It is indeed something *sui generis*.

The tourist knows not whether to wonder most that so broken a country is so fertile, or that so fertile a country is so broken. He is equally gratified, whether he contemplates the region as a land of prospects or harvests. Such a territory once opened by rail, must receive its annual thousands of visitors and sojourners. The railroad from Portland to Lake Champlain passes through the most characteristic portion of this picturesque country. All of the main summits of the Green Mountains are passed, remote or near, and the most important and celebrated are skirted at their very bases by the line of rail.”

And again: “All along the line of the Portland railroad, from the Connecticut river to the close vicinity of Lake Champlain, myriads of wooded hills wearing the green of the vast maple forests in summer, and blazing with orange and scarlet in autumn, alternating with valleys waving their broad acreage of grass or deep in their rich harvests, with streams and occasional water-falls in sight, surprise and delight the eye of the tourist.”

Again, a writer in the *Portland Daily Press*, under-

date Aug. 17, 1871, speaking of the same region, says: "The road then runs amongst hills and by the side of streams the greater part of its length. Scenes, accordingly, of great beauty are constantly unfolding to the eye of the traveler, at a few points attaining to the magnificent, as on the Danville and the Lunenburg heights, where a vast expanse of country opens to the vision, and at several localities nearer the larger masses of the Green Mountains. A great multitude of surprises, in the form of charming prospects, of cross valleys, of narrow bands of intervalle, of glimpses of streams, excite the interest and admiration of the tourist. The full effect of this diversified scenery is appreciated only as the fact is borne in mind of the profuse luxuriance of vegetation in all the region. On this topic the temptation is great to dwell at length, however superfluous; this characteristic being already so notorious as even to have given their name to the mountains of the State. In the condition of nature the entire territory was covered with woods. There were no bare spots. Valley, hill, and mountain were equally buried in great forests. These forests were, to a remarkable extent, as they now are, of deciduous trees,—the rock maple, the beech, the birch, the brown ash, the elm, etc. Evergreens are nowhere seen in such unbroken and monotonous mass as in Maine. The elm tree seems here to be indigenous. It grows in the woods, and not as with us in Maine merely as a cosseted growth. In multitudes of localities this tree was left standing as the country was cleared, the venerable monarchs now towering to the stature of giants, and standing dispersed or clustered with an art beyond the reach of man. But the one growth that gives this whole country its most characteristic aspect is the rock or sugar maple. This is everywhere. It shades the village streets. It is clustered in green groves by the farm-houses. It stands here and there in the pastures for



WHITE MOUNTAIN NOTCH.

shelters to the grazing herds. It covers whole mountains for miles and miles together with its summer-green masses, the black cones of the spruce and hemlock thrust up here and there, and making a fine contrast of form and color. Wherever space is given, there the maple takes possession and elaborates its delectable juices, giving character to the landscape, and adding materially, as will be shown hereafter, to the income of the people. The effect of these forests when autumn has glorified them with her coloring must be almost without a parallel, and passing all power of language adequately to describe."

The writer in the Advertiser speaks at length of

MOUNT MANSFIELD.

"This giant of the Green Mountains, celebrated for the beauty of its prospects, and in its own bulk attaining the stupendous, is in its highest summit, the 'Chin,' 4,380 feet high. The 'Nose' is 300 feet lower. It is now about twenty miles distant from railroads. The Morristown and Cambridge stations on the Portland and Ogdensburg Railroad will be within seven miles, on the east and north. The Underhill station on the Burlington branch of the same road will be as near on the west. The vast army of summer travelers who now leave Lake Champlain at Burlington for passage by rail to the White Mountains by a tedious circuit of 200 miles, will, on completion of the Portland-to-Burlington road take rail directly by the foot of Mansfield, thence, after a visit to its summit, through the beautiful Green Mountains beyond, and their charming valleys, to the White Hills, 130 miles in all.

"The top of the mountain is half bare rock, and half covered with dwarfed Polar vegetation, gnarled and stunted trees, great growths of mosses, tough and wiry grasses,—a little

patch of Greenland with a land of milk and honey all about. The hostelry on the crest of the mountain is cosily nestled under the 'Nose,' which towers above it, a huge craggy knob 250 feet high, and tempts the adventurous climber to its dizzy height, whence all the country to the south for a hundred miles is visible. The ascent is effected not without the aid of ropes and some shivers of the nerves of weakly people. This accomplished, the 'Chin' must be visited. A good path leads to its peak. The sight from this summit overlooks 'all the world,' the Green Mountain chain north and south, Sterling Mountain standing lonely amidst its woods to the north-east, Camel's Hump to the south, Lake Champlain, which now, as I gaze, burns like a sea of gold in the splendor of the setting sun, twenty miles away. Far to the north Montreal Mountain is uplifted, and the St. Lawrence discloses its shining waters, and beside them the spires of the great Canadian city can be descried by the aid of a glass. The White Mountains on the east bound the vast horizon. The Adirondacks are its limit on the west. Nearer at hand and all about us, beneath, the green fields of Vermont are outspread, and the white villages are dropped in here and there to perfect the landscape. The eye accustomed to the scenery of Maine and New Hampshire, notices the deficiency of lakes and ponds and the comparative smallness of the streams; but the verdure of the land makes compensation.

"'Smuggler's Notch' gaps between Mounts Mansfield and Sterling, an enormous chasm, from whose bottom the walls of rock rise almost perpendicular for nearly a thousand feet,—one of the wildest spots our eyes ever rested upon. No wonder the traditions of freebooters and customs violators cling to the remote and secure hiding-place."

In another place, speaking of the *profile* of Mt. Mansfield, he says: "In particular, for miles along the central portion

of the Vermont division, that most startling representment of a human face, the *profile* of Mount Mansfield, is full in sight. Here is a silhouette worth noticing. No petty ten-foot, or even hundred-foot visage, but *three miles* long,—the nose and chin two miles apart,—and suggestive of some mighty Ence-ladus, chained to the earth, with his face of adamant uplifted defiantly to the heavens!”

Of other attractions upon this route the same writer speaks thus: “Near the lake, where the aspects of the country become less strikingly picturesque, another attraction is added by the favor of nature, and in precisely the form least accustomed for New England, to wit,

SALUBRIOUS MINERAL SPRINGS.

The spas of Sheldon and Highgate, in their quality of water, have nothing to fear from comparison with Saratoga or even Egra and Seidlitz. They can show as proportionally long a list of well-attested cures. Cancerous, dyspeptic, and cutaneous affections, in particular, find in these waters an effectual remedy. Part of the springs are sulphurous, part chalybeate, and part mildly cathartic and alterative.—Large quantities are bottled and marketed in this country, and some is sold in Europe. In all save the water these springs have naturally much higher advantages than Saratoga. The country round about them is beautiful, and fertile to a marvel. At Highgate the charming Missisco bay of Lake Champlain adds the attractions of yachting, fishing, and gunning, to those of the springs. Sheldon has her Missisco and Black rivers with their waterfalls, and her ‘Dunton Hill’ with prospects of memorable beauty. Both series of springs lie along the track of the Portland railroad. The hotels already built furnish every comfort to the invalid and guest. Now that the road looks toward completion, movements are



MT. WASHINGTON.

making for greatly enlarged and magnificent accommodations.

LAKE CHAMPLAIN.

The Portland railroad will have two termini upon this inland sea, one at Burlington, one at Swanton. One hundred thousand passengers, tourists and travelers, pass and repass, each season, upon this noble sheet of water. Its scenery is of surpassing magnificence, the Adirondacks on the one hand, the Green Mountains on the other, and villages and towns along the shores. Salmon, pike, and trout in its waters, and all the varieties of inland marsh birds along its borders, afford sport to the fisher and gunner. Lake George and Saratoga are tributary to the travel of Champlain with their gay and elegant company, who will find, as just observed, short, direct transit by the Portland railroad to the White Hills *via* the Green Mountains and all the lovely country of northern Vermont."

It remains only to say that no other railroad in the country, much less any other, only 228 miles long, can show the parallel of these varied attractions. Such attractions, indeed, exist nowhere else to be shown. No other road, accordingly, can, with absolute assurance, pledge in advance so ample a measure of pleasure-travel income.

The connections of the road with other routes of travel are such as to make all these attractions most readily accessible. By it a route shorter by sixty-five miles from Lake Champlain, Saratoga, Lake George, and the Adirondacks to the White Mountains is opened. By it the Green Mountains, Lakes Memphremagog and Willoughby, can be most readily approached. By it the traveller can save fifty miles in journeying from Montreal to Portland. The road has connections west to Oswego, Rochester, Buffalo, Chicago, and all other

points ; connections also along the shore of Lake Champlain and the Hudson river to New York ; connections north at St. Johnsbury with the Grand Trunk ; connections south at the same point *via* New Hampshire and Massachusetts Railroads with Boston, Springfield and New York ; connections at Portland with railroads east throughout Maine and the maritime Provinces, and with railroads west to all points ; connections also with lines of steamers east and west, and connections by both rail and boat with the famous watering-places on the central and eastern shore of Maine, and the beaches located to the west. Lastly, the populous and well-to-do country lying upon the road in the major part of its length will inevitably give it an important passenger business throughout the year.

PART II.

THE GREAT-LAKE COUNTRY

AND THE

PORTLAND & OGDENSBURG RAILROAD LINE.

CHAPTER I.

AREA, PRODUCTION, ETC.

THE Portland & Ogdensburg Railroad will be the shortest possible route from the seaward end of the Mediterranean sea of the Great Lakes to the best harbor on the Atlantic seaboard, and to the port admitting of the quickest and cheapest transfer of products and merchandise. The combination of these three grand conditions of commercial success in favor of this railroad is a circumstance of such extraordinary character and consequence as requires particular and full consideration. The facts and figures subjoined are intended to give, in the most condensed form possible, some impression of the bulk of business that may legitimately be looked for upon this road when completed, and when its superior advantages have had time to be realized.

The chain of the Great Lakes, with their outlet stream, opens up the grand division of North America with 2,382 miles of navigable water. Indeed, from the head of Lake

Superior to the mouth of the St. Lawrence is 148 miles further than from the latter point to Liverpool. From the head of Lake Superior to Ogdensburg, at the east end of Lake Ontario, is 1,105 miles. The country bordering upon this 1,105 miles of inland navigation is unquestionably of higher productive capacity than any other equal area on the globe, for wheat, corn, oats, barley, rye, beef, pork, lard, and, in general, for all the staples of human food appropriate to the mid-temperate latitudes. The following table shows the extent of that part of the entire territory which is already productive of a vast surplus of food material, also what proportion of said part was improved in 1860,* and the population in 1870.

	AREA. Acres.	ACRES. Improved, 1860.	POPULATION. 1870.
Ohio.....	25,600,000	12,669,000	2,662,302
Michigan.....	35,900,000	3,420,000	1,184,653
Indiana.....	21,630,000	8,162,000	1,655,675
Illinois.....	35,400,000	12,251,000	2,529,410
Iowa.....	35,000,000	3,780,000	1,191,359
Wisconsin.....	34,500,000	3,746,000	1,055,501
Minnesota.....	53,120,000	554,000	424,543
	<u>241,150,000</u>	<u>44,582,000</u>	<u>10,703,443</u>

To this add the British Province on the north:

	ACRES.	IMPROVED. [Estimated.]	POPULATION. 1871.
Ontario.....	76,800,000	10,500,000	2,130,000

This gives a grand total of 318 million acres, of which only fifty-five million were improved in 1860. Allow twenty million for additional improvements, since 1860, and the improved acres stand to the unimproved, as seventy-five million to 243 million. Were the entire territory improved in proportion as the part now occupied, its population would exceed by

*The figures for 1870 are not yet available.



several millions the present total population of the United States.

But in fact the immense areas west and north-west, in Dakota, Nebraska, in the Red-river and Saskatchewan-river country, *hundreds of thousands of square miles*, an important part of which is unsurpassed grain and live-stock land, will send their products to market by the water-line of the lakes as fast as they become developed, and by the same route will carry back their heavier merchandise. The railroad lines projecting and constructing into these extensive regions, the Northern Pacific and others, by their routes and choice of termini imply, and provide for this, as for an inevitable commercial necessity.

The States above mentioned, together with Missouri and Kansas, or the so-called *grain-growing States*, produced of grain alone as follows :

	1850.	1860.	1869.
Wheat, bush.,.....	43,842,038	89,293,603	166,100,000
Corn, "	222,208,502	392,289,631	556,050,000
Oats, "	42,328,731	62,738,901	146,200,000
Rye, "	739,567	3,997,001	4,802,000
Barley, "	831,517	4,865,761	8,755,000
Totals,.....	309,950,355	553,184,897	881,907,000

The province of Ontario produced of wheat, barley, rye, buckwheat, corn, oats, etc., as follows :

1851.....	41,223,466 bushels.
1861.....	96,192,702 "

The present production of the above States and the province, of grain alone, is undoubtedly 1,050 million bushels. Nor is the production confined to the grains exclusively. The yield of swine, beef cattle, sheep, wool, lumber, etc., is enormous. Thus, in the States above mentioned, there were in 1850, of swine, 8½ millions; in 1860, 11 millions; in 1869,

19 millions ! In 1870, Chicago alone received 1,953,370 hogs, 532,964 cattle, 1,019,000,000 feet of lumber, 652,000,000 shingles, 14,751,000 pounds of wool, 10,000,000 pounds of tobacco, 28,539,000 pounds of hides, etc., etc. The shipments of ore at two ports on Lake Superior reached 723,000 tons in 1869, from 1,500 tons in 1855. Canada, the same year, sent 224,000,000 feet of lumber to Buffalo, and 284,-500,000 to Oswego.

Stupendous as is the product of the immense territory tributary to the Great Lakes, it is inevitably going on to far greater aggregates at no distant day. The figures above given of the vast area yet unimproved, as well as those indicating the rapid increase in the past, lend all required authority to this statement. The one grand obstruction to an instant and enormous augmentation of production is the *cost of getting to market*. It is the terrible and consuming tax for transportation that devours the profits of the producer and discourages the enlargement of his field of operations. The trouble is not more that the means are inadequate than that they are *too costly*. The harvests are mulcted so heavily for transport charges on their way to market, and their cost at market thereby so much increased, that consumption is reduced. The consumer on the seaboard or in Europe looks elsewhere for supplies, or is compelled to raise them at home. The consumer and the producer alike, then, are most deeply concerned to cut down the cost to market, the one to buy cheaper, the other to reap a larger return ; the one to use, the other to grow more abundant supplies. This leads us to consider, for the great territory in question, the routes to market.

CHAPTER II.

THE ROUTES TO MARKET.

SECTION I.—THE MISSISSIPPI RIVER.

This great stream would at first sight seem to be for a considerable portion of the grain and produce States, the grand natural artery of business and commerce. To an important extent it is so, but certainly cannot be as to the larger proportion of their trade. Its course compels an enormous divergence from the lines of direct communication with Europe and the east-Atlantic coast. It moreover leads into climates of such extreme and sustained heat, and into waters likewise of such high temperature,* that on their passage the perishable products of the field are greatly impaired in quality and market value, and not unfrequently are entirely ruined. For the greater proportion of the business of the territory in question it can never prove a formidable competitor to the Great Lakes, or even to railroads, and may therefore be dismissed from further consideration.

SECTION II.—RAILROADS.

Railroads are for the great territory in question, as for every other that pretends to any business activity, indispensable media of communication. In this region, as elsewhere, they are supplanting every other mode of conveyance for both near and distant travel, and for the transfer of the lighter

*The Gulf of Mexico and the Gulf of Guinea are the warmest bodies of salt-water, of great magnitude, in the world, their temperature being 89°.

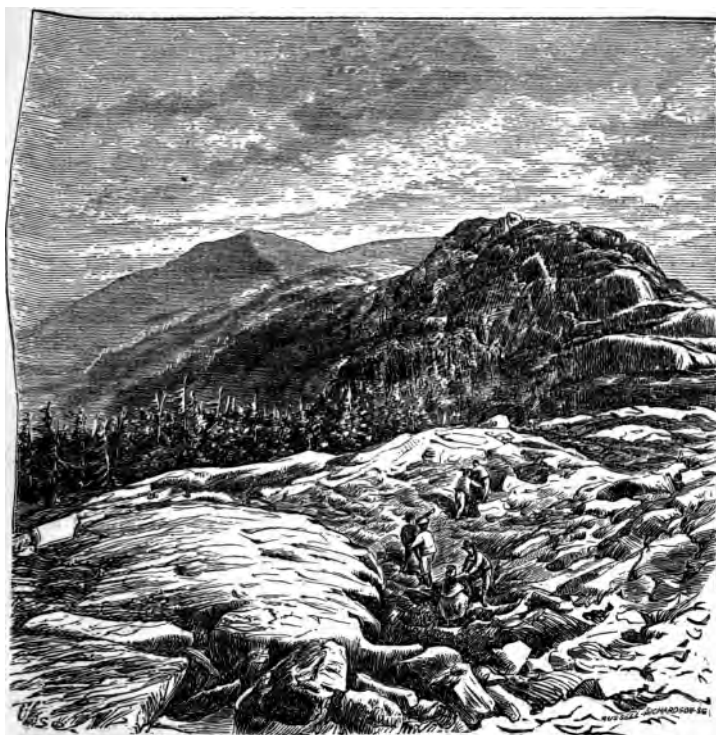
and more rapidly perishable articles of produce and merchandise. Of this region, as of others, they are perhaps the most powerful instrument of development and growth. As constructed within it and for its local purposes, they collect at the great centres the surplus products of the outlying territories, and distribute to them in turn the various merchandise necessary for a civilized people. They also connect the region with others, maritime and interior, and bind all together in a community of social intercourse and business relationship.

But it is noticeable throughout, that the location both of the railroads and of the great foci in which they centre, is fixed with reference and in subordination to the lines of *water communication*. Duluth, Chicago, Milwaukee, Detroit, Toledo, Cleveland, Buffalo, Toronto, and many others of various but rapidly increasing size, are planted where convenience to water carriage has required them to be planted. It is thus tacitly but fully acknowledged, that for this region, furnished as it is with inland navigation without a parallel on the globe, and however it may be elsewhere, water and not iron is to bear the bulk of transportation, and to be the grand vehicle for export and import service, and the interchange of commodities. Why this is so it is now proposed to show.

SECTION III.—LAKES VERSUS RAILROADS.

For the year 1870, the mean freight for grain from Chicago to Montreal by *all rail* was 27.2 cents per bushel. The freight *by propeller* between the same points in 1868 was 13 cents, in 1869 still less, or about 12 cents. The excess by rail is over one hundred per cent.

All-rail freight from Chicago to Buffalo for grain per bushel varied, in 1870, from 18 to 21 cents; by propeller from 3 to 6½ cents per bushel for oats, and from 5 to 10 cents for wheat. The lowest rate by rail exceeds the highest by water 63 per cent!



CREST OF MT. MANSFIELD.

The all-rail freight from Chicago to Boston for a barrel of flour varied, in 1870, from 90 to 140 cents; the freight by propeller to Buffalo, and thence by rail to Boston, ranged from 75 to 105 cents. The rate by all rail to New York varied from 80 to 130 cents; by lake and rail, from 55 to 105 cents.

In 1869, all-rail freights for flour from Milwaukee to New York varied from 110 to 150 cents per barrel; lake-and-rail freights ranged from 60 to 120 cents. To Boston the lowest all-rail freight was 110 cents per barrel; the lowest lake-and-rail freight was 70 cents.

In 1870, wheat was carried in sail vessels from Chicago to Kingston, at the east end of Lake Ontario, at rates varying from 8 to 15 cents per bushel; and corn for $7\frac{1}{2}$ to 14 cents. The distance is 1,073 miles! The highest rate was but \$4.95 per ton, or 4.6 mills per ton per mile.

From Chicago to Buffalo by lake, in 1866 and 1867, rates varied by yearly average, on wheat and corn, from 2.5 to 4.7 mills per ton per mile, the mean being 3.7 mills.

According to the report of the Board of Trade of the city of Hamilton to the Canadian commissioners on canal enlargement, 1870, propellers of 500 tons burden, carrying 15,000 bushels, can now bring grain from Chicago to Montreal for $12\frac{1}{2}$ cents a bushel, and *do well at that*. The distance is 1,261 miles, 71 of which are by canal, and the rate per ton per mile, 3.2 mills. Were the canals so enlarged as to admit such vessels as now navigate the upper lakes, or say 900 tons and 30,000 bushels capacity, the rates might be reduced $12\frac{1}{2}$ per cent., or to 2.7 mills per ton per mile. They further state, that iron received from ocean ships at Quebec is laid down in Chicago at \$3.50 per gross ton, the haulage over railway for the same distance being \$10. It may be remarked that at this date of writing, four iron propellers are building at Buf-

falo, each of 2,000 tons capacity, or 66,000 bushels, for the upper-lake business.

To sum up: the general average for rates of transportation on the Great Lakes for provisions, breadstuffs, and the classes of heavier and non-perishable merchandise, may be set down as four mills per ton per mile. This is the highest figure admissible.

On the other hand, the actual cost of moving a ton a mile was as follows upon the following railroads, in 1868:

Buffalo & Erie Railroad.....	26.3 mills.
Erie.....	13.5 "
Hudson River.....	24.5 "
New York Central.....	16.4 "
New York & Harlem.....	57.8 "
Ogdensburg & Lake Champlain.....	20.4 "
Oswego & Syracuse.....	35.2 "
Rome, Watertown, & Ogdensburg.....	32.4 "
Average,	23.3 mills.

This is seven times the rate by lake.

Take, however, the great freight lines, the Erie and the New York Central. The average of their rate, as above, is 14.9 cents. These are the cheapest freight lines in the country, yet their rates exceed by 272 per cent. the rates by lake.

The average expense of transporting one ton of freight one mile, upon all the railroads in New York, in 1868, was 17.4 mills. This is the actual cost. The actual sum received was 24.1 mills.

The freight earnings of the New York Central Railroad for the ten years ending with 1870, were 25.1 mills per ton per mile. The earnings of the Erie Railroad for the same period were 19.2 mills per ton per mile.

In fact, the most audacious and enthusiastic advocate for railways does not maintain that, with every possible improve-

ment and advantage, the carriage of merchandise by rail can be reduced below 10 mills per ton per mile.

It is superfluous to say, in view of these facts, that the *great body of heavy merchandise and products for the Great-Lake country will move in and out by water*, to the extent, at least, of lake navigation. In further view of the facts, we are able to understand by force of what circumstances the trade of the lakes has increased with a rapidity and to a magnitude so marvelous as is indicated in the facts subjoined :

	GREAT-LAKE TONNAGE.	GROSS VALUE OF TRADE.
1841.....		\$ 65,000,000
1851.....	212,000	300,000,000
1862.....	450,000	
1866.....	547,000	
1871 (estimated).....	700,000	700,000,000

Or, again :

RECEIPTS OF FLOUR AND GRAIN AT FIVE LAKE PORTS.

	1866-7.	1867-8.	1868-9.
Flour reduced to Wheat bushels..	18,344,285	20,177,435	26,881,705
Total grain.....	60,814,055	85,883,572	94,933,545
Grand total—bushels.....	88,158,340	106,061,007	121,815,250

The ports referred to are Chicago, Milwaukee, Toledo, Detroit, and Cleveland.

SECTION IV.—FROM THE LAKES TO TIDE.

Produce, having reached the east end of the lakes, seeks outlet to tide. One route is by the *St. Lawrence river*. For the comparatively small portion of products that are destined to European ports, this will always be a valuable and cheap line. But only a small part of the breadstuffs and provisions of the north-west ever finds its way to Liverpool. The great market for these is among the towns of the Atlantic seaboard.



MT. MANSFIELD, FROM UNDERHILL VILLAGE.

The St. Lawrence route is obviously not available for this market, because too far divergent therefrom. It has, moreover, special difficulties. The Atlantic is reached by it in nearly the latitude of Baffin's bay, at the extreme verge of coast navigation, in a region most perilous to the navigator by reason of ice, calms, currents, and fogs; and also by reason of violent storms, which in no part of that most boisterous of all oceans, the North Atlantic, are more furious than off the Gulf of St. Lawrence. The offings and the climate alike are most inhospitable to the merchant and the mariner, as the rates of marine insurance significantly show. The great body of products will not go by this route, for it is too dangerous, and leads away from the main market.

The second grand route from lake to sea is by the *Erie canal*, from either Buffalo on Lake Erie, or Oswego on Lake Ontario. An enormous transportation is accomplished by this route, the total tonnage from 1860 to 1869 being 9,470,000,000 tons moved one mile, or twenty-four per cent. more than the total amount moved on the New York Central and Erie Railroads for the same time. Its great strength as a transport line is its vast carrying capacity, and its low rates for freight as compared with railroads. But its carrying capacity has now reached its limit. Enormous amounts of through freight are forced off it upon railroads from its sheer inability to carry more. Its capacity can be increased only by enlargement, which, in a length of 364 miles, would involve enormous expense. Whether the outlay would be judicious or not, neither the general government, nor the State of New York, nor other parties or communities in interest, seem inclined to make it.

The rate for freight by canal from Buffalo to New York, from 1860 to 1867, was 15 mills per ton per mile. From 1866 to 1869 the rate was 10 mills. The actual cost, exclusive of

tolls, can probably be brought down to 6 mills per ton per mile. This is cheaper than any railroad can carry for. But on the other hand are the following offsetting circumstances.

The passage through the canal, with its 364 miles of length and 698 feet of lockage, is consumptive of much *time*. The movement of grain from Chicago to New York by this route consumes twenty-one days. Whereas it can reach Ogdensburg by propeller in seven days. From this point, by rail, 250,000 bushels could be laid down at tide-water at Portland every twenty-four hours, with trains starting every two hours. The time, accordingly, would be eight days at Portland against twenty-one at New York.

But further, on the canal special delays and obstructions arising from stress of weather, floods, breaks in the canal, or the sheer engorgement of business, are constantly occurring, and entail enormous inconvenience and loss. This cannot be provided against, and its tendency, accordingly, is to drive freight to the railroads, or, in short, to make the railroads the more desirable route.

Further, the water of the canal becomes warm in summer, and impairs the quality of the grain. One forwarding house in 1861 lost \$50,000 by heating between Buffalo and Albany. This trouble is never experienced in the cold waters of the lakes. On page 14 of the Report of the Chicago Board of Trade for 1870, it is remarked, "the tolls on the Erie canal were reduced nearly one-half last spring," . . . "but for a good portion of the summer our shippers were afraid to risk our spring wheat in boats for ten days to two weeks; large amounts were sent by rail," etc., etc. On the other hand, in the protracted and sometimes obstructed passage of the canal vast quantities of produce are liable to be frozen in. At this date of writing, Dec., 1871, four and a half million bushels of grain are held fast by ice on the line of the canal, and



HIGHGATE FALLS.

an enormous amount of provisions and fruit. It is to be observed that the Erie canal closes sooner than the Welland, the latter remaining open for 246 days per annum on the average, against 225 days for the Erie.

SECTION V.—THE BEST ROUTE BY RAIL.

As result of these circumstances, there remains a vast and rapidly increasing amount of transportation from the lakes to tide and back, to be accomplished by rail. All things considered, *what is the best route?* As already observed, Ogdensburg is the easternmost port of unobstructed access from Lake Ontario. Bearing this in mind, attend to the following statement of distances :

Ogdensburg to New York, by rail.....	400 miles.
“ “ Boston, “ “	406 “
“ “ Portland, “ “	360 “

By the Portland & Ogdensburg Railroad, accordingly, when completed, the produce of the West arrived at Ogdensburg will be nearer Portland than New York by forty miles, or than Boston by forty-six miles. At the average rates for freights charged on the Vermont Central Railroad, the main line to Boston, namely, 2.2 cents per ton per mile, the cost of getting a ton of freight to Portland would be 101 cents less than to Boston. At the rates of freight on the road to New York, *i. e.*, the Rome, Watertown & Ogdensburg Railroad, viz., three cents per ton per mile, the cost to New York would be 120 cents per ton more than to Portland. If the other roads carry at cost, the Portland road could carry as cheaply and have a margin. If they attempt to carry at less than cost, trusting to local business for the deficit, the Portland railroad traverses as fine a country as they, and can count upon a great local business as surely as they.

Consider other circumstances : between Ogdensburg and Portland there will be, practically, but two corporations. Between the same point and Boston, "one of the two routes," to quote from Chas. Francis Adams, jr., in the North American Review, "is held by five, the other by seven different corporations ; some of these are rich, respectable, and lazy ; others are poor, not always honest, and generally insolvent. So far as management is concerned, for a railroad to be in the hands of trustees is as disastrous as in business it is to have one's affairs in the hands of an assignee." . . . "Taken altogether, it may safely be asserted that there is no known vicissitude of railroad fortune or misfortune, no form of railroad rascality, blundering, mismanagement, and improvidence, no legal process known to the science of railroad law, which has not been exemplified, somewhere or at some time, in the history of that mosaic of lines which form the connection between Boston and Ogdensburg." . . . "That work," *i. e.*, of extricating these "petty" corporations from their embarrassments, "is but half done."

The *local advantages for handling freight*, are, as incidentally observed on a former page, as good in Portland as they can be anywhere in the world, immeasurably better than they are in New York, and certainly equal to the very best Boston will secure upon the completion of her Marginal freight railway. Such a railway Portland already has along three miles of her water front with branches upon the wharfs, so that the freight-car can drop its load by the run into the hold of the packet, at any point as desired, and with all depths of water available up to thirty feet. The service of men and horses, of clerks and attendants, is cheaper in Portland than in Boston or New York. Port charges and expenses are less. Rents of all sorts less. The cost of ships' supplies and refitting is less. An elevator at Ogdensburg could despatch 200,000 to

250,000 bushels each day, which in twenty-four hours could be alongside the dock in Portland, and in a few hours more be on board ship for Liverpool or coastwise ports. Nowhere else on the Atlantic coast can the expenditure of labor, time, and money, for the same service, be brought down to so small a figure. Portland has a first-class elevator and one of the largest dry-docks in the country. Its harbor is never obstructed by ice. New York and Boston harbors both are. Boston has been obliged to cut a channel seven miles long, through ice, from her steamship docks to clear water, and is compelled to make outlay nearly every year to keep the approaches to her wharfs clear. Portland harbor is so easy of access, that the services of pilots are not necessary. It is but two and a half miles from the wharves to the open main. The offings are clear of dangers, whether of capes, shoals, or reefs. Portland already has semi-weekly steamers to Liverpool, and a line to Glasgow, for seven months of the year. The owners of the lines stand ready to put on additional facilities, and to extend the service throughout the year as soon as demanded. Boston has never yet been able to sustain a single trans-ocean steamship.

It is demonstrable that Portland can, upon completion of the road to Ogdensburg, load ships with grain cheaper by *two to three cents per bushel* than can Boston, even supposing Boston to do it without profit. The various incidents above referred to carry this conclusion upon their face by necessary implication. Mr. Adams, in the article before quoted, sums up the case betwixt New York and Boston thus: "Time from Chicago to New York, by canal, twenty-one days; by rail, seven days; cost on a bushel of wheat thirty-six cents. Time from Chicago to Boston, *via* Ogdensburg, ten days; cost on a bushel of wheat thirty-four cents." Portland can do better than either, with her railroad through to Lake Onta-

rio. Mr. Adams then observes that with a ship-canal by Niagara Falls, enabling propellers of 1,500 tons burden to reach Ogdensburg, and with a consolidated railroad company making the freight movement from Ogdensburg its specialty, wheat could be delivered on shipboard (at Boston) for twenty-three cents per bushel, or *five cents a bushel less than the Erie Canal* for 1867. Were these conditions realized, Portland would still have the advantage as before. The foreign exports of Portland in 1868 were \$9,848,000; in 1870, \$11,891,000.

SECTION VI.—IMPORT BUSINESS AT PORTLAND.

Here, then, the great practical inquiry arises: Can Portland secure the necessary *import* business to complement and sustain the export business? At this point we quote further from Mr. Adams. . . . "Commerce cannot live by exports alone: whence are to come the imports to balance those exports? New York is the great point of import, and ships cannot afford to come round thence in ballast to Boston for a return cargo. The difficulty with Boston, however, has hitherto been, not imports but return freights. Ships which come loaded to her wharves leave them in ballast to seek cargoes elsewhere. Imports may be divided into two classes, those which come seeking a market, and those which come simply seeking a channel of entrance for an interior destination. So far as the great market is concerned, the question is decided. New York is and will always remain, the great mart of the country,—the place where men buy and sell. Not only can no effort of Boston, or any other port, disturb her supremacy in this respect, but Boston cannot prevent her own manufactures from flowing thither as a better market than her own. But because men can there best buy and sell, it by no means follows that there they can most conveniently

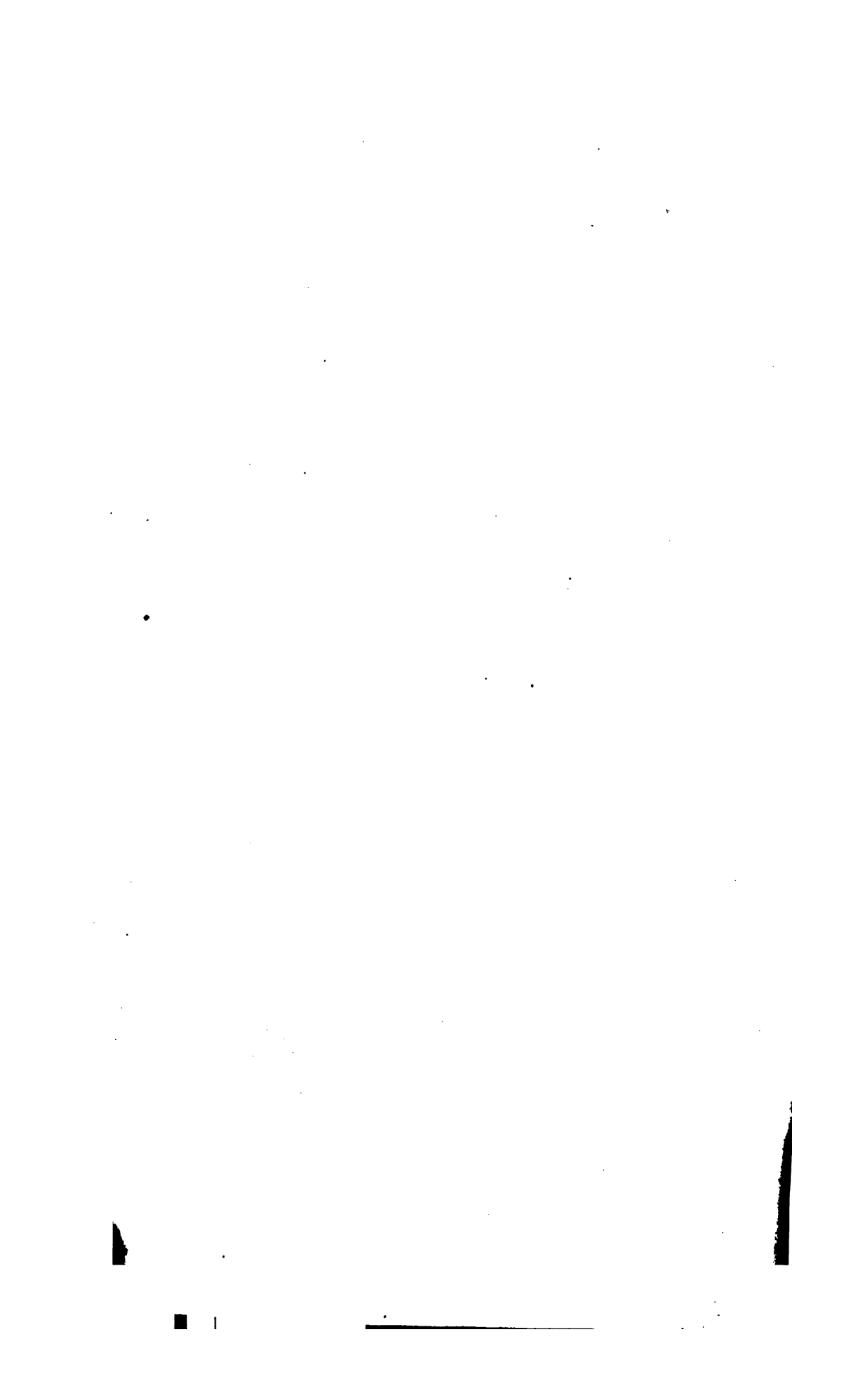
export or import as through a point of transit. On the contrary the very bustle and confusion of the great Babel will indicate the reverse. Boston, then, might find her account in showing herself to be a convenient point of transit, a place noted for the quick, cheap, and honest handling of goods. Such a character Boston has not yet earned. The absence of all means of handling goods, the cost of truckage, the insufficient railroad facilities, and general absence of system, have hitherto *thrown this business into the hand of Portland*. Boston has hardly imported and forwarded directly to the West, to the extent of a million dollars a year. Portland, however, having the Grand Trunk to aid her, out of an aggregate of imports about one-third that of Boston, receives a million a year of direct importations by steamer to Detroit, Chicago, and Milwaukee. The delays and extortions incident to landing goods in New York will be touched upon presently; in Portland these goods are landed, appraised, the duties estimated, the bonds given, and the articles fifty miles on the way to their destination within a few hours after the steamer has made fast to the pier. A business so managed cannot but increase."

This is the testimony of a citizen of Boston and of one of the most competent authorities upon such questions. But the truth is, Portland imports much more largely than would be inferred from Mr. Adams's statement. In the four years, 1866, '67, '68, and '70, there were entered at the Portland Custom House \$62,238,273 of merchandise, destined in part for local consumption and in part for points in the interior and Canada. This gives an average of \$15,559,000 per year. With a railroad to Lake Ontario, Portland will become, even more conspicuously than she now is, the most prompt, cheap, and convenient port through which to forward merchandise directly from the ship's side to the ultimate and interior points of des-



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BURLINGTON.



ination. New York will of course always be the *great* port of entry, but she cannot do all the business, and for what she cannot do Portland offers facilities second to none.

SECTION VII.—THE CAUGHNAWAGA SHIP CANAL.

No view of the prospective business of the Portland & Ogdensburg Railroad is at all complete that does not take into consideration this great improvement now moving toward execution. It is, in brief, a canal from the St. Lawrence into Lake Champlain, $29\frac{1}{2}$ miles long, of only 25 feet lockage, that will enable propellers of 900 tons capacity, from Chicago, Duluth, and all other lake ports, to break bulk at Swanton and Burlington, 228 and 222 miles respectively from tidewater at Portland! The saving of time by this route for goods destined beyond sea, or for distribution throughout New England and along the coast, is six to ten days over the Erie canal route by either Buffalo or Oswego. By the Caughnawaga route there are but 57 miles canal; by the Erie, 364 miles and 200 feet extra lockage, with only 210 tons capacity per boat, the expense and delay of transshipment at Buffalo or Oswego, and all the other difficulties before noticed. Two years time and two and a half million dollars only are necessary for the construction of the canal. Its effect would be to transfer Buffalo, Oswego, and Ogdensburg to Lake Champlain. The bulk of business thrown by it upon the railroads radiating from Burlington, Swanton, and other points, will be enormous. The saving to the West in reaching market by this route would be scores of millions of dollars yearly. The carrying out of this great enterprise will require the enlargement of the Welland canal, and the lengthening of the locks of the St. Lawrence canals, which are both on the eve of accomplishment, irrespective of the Caughnawaga enterprise. It is not necessary to remind the reader that the Portland &

Ogdensburg Railroad, making one terminus at Burlington and one at Swanton, will have advantages equaled by no other road for transporting to tide-water the products of the Western country, poured by this channel into the great receiving basin of Lake Champlain, and for returning to the interior the goods of New England and foreign manufactories, and the products of foreign climes.

APPENDIX.

DETAILED VIEW

OF THE

Resources, Business, Population, and Wealth of the Portland and Ogdensburg Railroad Country.

CHAPTER I.

VERMONT DIVISION.*

SECTION I.—CONNECTICUT RIVER TO ST. JOHNSBURY.

WE begin our survey at the Connecticut river, and thence move westward. The *Dalton Rapids*, on the Connecticut river at the railroad crossing, have ample power for 150,000 spindles, equal to the power at Saco and Biddeford, in Maine. Abundant stone for the dam lies loose in the river, and in a wing dam now out of repair. The chance for canals and for locating mills is excellent. The dam will give a head of 20 feet, and would pond the river back for many miles. 300,000 acres of heavy timber lands about the head-waters of the Connecticut river will float their lumber to this point to be manufactured and put upon the rail.

Lunenburg, the easternmost town in the Vermont Division of the railroad, is on the west bank of the river. Potatoes are a great crop. 2,000,000 feet of lumber are manufactured, and 200 tons of starch. Sixty tons maple sugar are produced. Sales of merchandise, \$90,000, not including the manufactures. On the "Lunenburg Heights" is an admirable site for a summer hotel, with a sulphur spring at hand, and a prospect of parts of

*The statement for this portion of the line is based, in part, upon the replies to a circular sent into nearly every school-district along the line, several hundred in all, which replies in turn were based upon the testimony and business accounts of traders, manufacturers, producers, produce dealers, assessors, and responsible citizens generally. It is based, also, upon the letters of a correspondent of the *Portland Daily Press*, who spent many weeks in the exploration of the country, with every facility at command for obtaining full and reliable information.

seventeen different towns, the White Mountains, Stratford Peaks, and the valley of the Connecticut for thirty miles. Stock taken in the Portland & Ogdensburg Railroad, \$50,000.

Concord lies next west, with numerous water-powers on the Moose river. The woolen mill turns out \$80,000 of goods. Lumber cut, \$35,000; other manufactures, \$20,000. Sales of merchandise, \$150,000. There is a mine of roofing-slate, not yet worked on account of cost of transportation. From the "copper mine" hundreds of tons of ore have been sent by eight miles' trucking and three hundred miles' railroading to New York. The ore turns out of fine quality. Long litigation, suspending work, has just terminated, and on the opening of the railroad to Portland extensive operations will be renewed. Portland & Ogdensburg stock, \$100,000.

The towns of Waterford, Kirby, Granby, and Victory will touch rail at Lunenburg and Concord to freight products and for goods. In Concord, Granby, and Victory are 63,000 acres of heavy timber land, with 315,000,000 feet of standing lumber; this will take rail at Concord. In Granby and Victory \$65,000 worth of lumber are cut yearly now.

St. Johnsbury is west of Concord, with five excellent water-powers on the Passumpsic, and several on the Moose river, chiefly improved. The site is of remarkable beauty, and art and taste have heightened its natural attractions. The public library, the \$75,000 gift of Hon. Horace Fairbanks to the town, is not surpassed anywhere for the beauty of the building, or the excellence of its literary contents. Gas-works and water-works, constructed by the enterprise and public spirit of the Fairbanks Co., add to the substantial attractions of the town. The St. Johnsbury academy boarding-house, costing \$40,000, is the gift of the venerable Thaddeus Fairbanks to the cause of education. A soldiers' monument of the highest artistic attractions attests the liberality of the town, and the skill of Mead, the artist. The National bank has a capital of \$450,000.

The *Fairbanks' Scale Works* occupy ten acres, and fifteen large buildings with several floors each. 600 hands, 60 horses, and numerous cattle are employed. 37,000 scales of 300 different varieties, to weigh from one grain to 500 tons are made, and are marketed from China to Oregon, and from Norway to Cape Colony. Annual sales, \$1,500,000. 3,000,000 feet of lumber are used, and 3,000 tons American iron; also 1,000 tons Scotch iron. Their transportation in and out, 12,000 tons, will be done by the Portland & Ogdensburg Railroad. There are other important manufactures in the town. The Steam Mill Company use lumber, iron and coal, and turn out \$120,000 of goods; Buzzell's machine shop, sales \$50,000; Colby, Gay & Blake, sales \$35,000; Paddock's machine shop, \$35,000; Ely, Balch & Co., hoes and forks, \$60,000; etc. Total sales of manufactures of the town \$2,000,000; of merchandise \$1,500,000. Portland and Ogdensburg stock \$375,000. 37,000 passengers were taken and left at the St. Johnsbury station the past year.

The following table gives a summary of population, wealth, etc., for this section of the road. A considerable portion of the territory is still unde-

veloped, being covered with large and heavy forests. Its minerals are hardly touched. Its lands are still untilled. The railroad will change all this:

	POPULATION.	ESTATES.*	DISTANCE TO BOSTON AT STATION.	DISTANCE TO PORTLAND AT STATION.
Lunenburg,.....	1,002	\$ 600,800	196	118
Concord,.....	1,300	1,624,000	205	127
St. Johnsbury,.....	4,700	4,669,000	205	185
Waterford,.....	878	886,000	205	127
Kirby,.....	419	336,000	205	127
Granby,.....	174	77,000	205	127
Victory,.....	263	149,000	205	127

SECTION II.—ST. JOHNSBURY TO ELMORE.

As before observed, the Passumpsic Railroad crosses the Portland and Ogdensburg line at St. Johnsbury. Twenty-three towns on the former road, north to the State line, with 24,000 population and fourteen millions of property, can save 140 miles in the round trip, by going, *via* St. Johnsbury and the Portland & Ogdensburg Railroad, to Portland to market, instead of Boston. These towns have increased in property from fifty to three hundred per cent. since the railroad opened. Even now, however, their valuation is less than that of sixteen towns taken in course on the line of the Portland and Ogdensburg road, west of St. Johnsbury and not including St. Johnsbury, yet the latter have been sixteen miles from railroads. The Passumpsic towns referred to are as follows:

POPULATION.		ESTATES.	POPULATION.		ESTATES.
Lyndon,.....	2,200	\$1,844,800	Lowell,.....	942	\$476,000
Sutton,.....	921	569,400	Westfield,.....	721	347,000
Sheffield,.....	811	416,200	Jay,.....	553	179,400
East Haven,.....	191	136,600	Troy,.....	1,355	718,000
Newark,.....	593	296,600	Newport,.....	2,050	1,112,000
Barton,.....	1,913	1,179,000	Coventry,.....	914	898,800
Westmore,.....	412	149,600	Derby,.....	2,083	1,616,000
Charleston,.....	1,278	650,000	Holland,.....	881	415,200
Brownington,.....	902	429,600	Morgan,.....	615	259,200
Irasburgh,.....	1,085	1,018,000			

Four towns additional to the above will take rail in part on the Portland and Ogdensburg road direct, as noticed elsewhere, and in part upon the Passumpsic. Their population and estates are given in other tables. The whole twenty-three towns on reaching St. Johnsbury are seventy miles nearer Portland than Boston.

The following eight towns, situated *south* of St. Johnsbury upon the same railroad, will also find shorter passage to Portland than to Boston, and *via* two railroad corporations instead of four:

* The estimates of the value of property as given in this document are, unless specified to the contrary, rated at double the nominal valuation for the purposes of taxation. This is unquestionably a low figure for property consisting so largely of farms and woodlands.

IN VERMONT.		IN NEW HAMPSHIRE.	
Population.	Estates.	Population.	Estates.
Barnet,.....1,945	\$1,554,000	Monroe,..... 619	\$473,200
Ryegate,..... 935	794,000	Haverhill,.....2,291	1,932,500
Newbury,.....2,241	2,198,000	Piermont,..... 792	959,000
Bradford,.....1,492	1,164,000		

The distance saved by these towns in the round trip to Portland instead of Boston varies from 40 to 120 miles, according to their location.

To resume the consideration of the Portland and Ogdensburg main line. Danville, next west of St. Johnsbury, on the Portland & Ogdensburg Railroad, sells \$120,000 of merchandise, \$122,000 of woollens, agricultural implements, lumber, etc. The National Bank has a capital of \$100,000. Sales of butter twenty tons, poultry five tons, potatoes 30,000 bushels, also live-stock and wool. A famous granite quarry, a sulphur spring, a magnificent site for a summer hotel, and an excellent Academy are in town.

Peacham, on the south, sells \$100,000 merchandise, \$30,000 manufactures, 500,000 feet of lumber, fifty tons sugar, twenty tons butter. Scores of millions of lumber are still standing.

Cabot, next west of Danville, sells \$70,000 of merchandise, and \$20,000 of manufactures, also seventy-five tons maple sugar and twenty tons butter, besides live-stock. A flourishing woolen mill here.

Walden sells \$35,000 of merchandise, \$44,000 of starch, lumber, etc., \$25,000 live-stock, \$10,000 wool, butter thirty tons, starch forty tons. Sugar made, 1871, 100 tons. Portland and Ogdensburg stock, \$34,000.

Greensboro' sells \$30,000 merchandise. Excellent water-powers not improved. Much lumber not cut. Fifty tons butter and sixty tons sugar made. Sales of live-stock, \$20,000; might be much greater. Stannard, next to Greensboro', a small town, manufactures considerable lumber. A part of the town of Wheelock will touch rail at the Greensboro' station. Also a portion of Glover, with large agricultural production, and important manufactures of leather, clothes-wringers, lumber, etc. Greensboro' took \$25,000 Portland and Ogdensburg stock; Stannard, \$3,000.

Hardwick follows next in order in the famous Lamoille valley. Sales of merchandise estimated at \$130,000. Manufactures of cassimeres, leather, lumber, etc. A noted sulphur spring here, formerly much frequented; the hotel connected with it is now closed. In 1870, eighty-five tons butter were made, and eighty-nine tons sugar; last spring, one hundred tons. Potatoes, pork, live hogs, and cattle sold largely.

The town of Woodbury wholly, and Calais in part, will do their railroad-ing *via* Hardwick, with eight merchants, and fourteen manufacturers of lumber, lasts, boot-trees, last-machines, etc. Sales of Woodbury, merchandise, \$15,000, manufactures, \$6,000; also, in tons, live-stock one hundred, butter thirty, sugar ten, potatoes seventy-five.

Wolcott comes next to Hardwick. Of the 23,000 acres in town, 7,600 are timbered, from which 1,630,000 feet were cut in 1870. Sales in 1870, 31 tons butter, 27 tons pork, 69 horses, 616 sheep, 389 cattle, 12 tons hops, and 6,000

bushels potatoes. Sales of merchandise, \$50,000; manufactures, \$40,000. Portland & Ogdensburg stock, \$41,000. Not including the above, and not including the Hone Co.'s, mentioned below, 106 tons freight left the town, and 190 tons entered it. The quarry of *hone-stone* here, consists of two veins, each twenty feet wide, running into the side of a mountain. The stone varies in quality from "razor" to "carpenter," and is of somewhat sharper grit and quicker execution than the Scotch hone. The blocks are cut up by water-power close at hand. Scythe-stones are also manufactured. Operations have been restricted by the cost of transportation, railroads having been twenty miles distant. The outward freight has been about 400 tons per year. The Portland & Ogdensburg Railroad passes directly by the mine and store-houses.

Craftsbury, on the north, will touch rail at Wolcott, with eight traders, and nine manufacturers of leather, lumber, woollens, etc. Some thousands of dollars of Portland & Ogdensburg stock were taken in the town.

The table following gives additional facts respecting the towns in this section of the road.

POPULATION.	ESTATES.	DISTANCE TO BOSTON.		DISTANCE TO PORTLAND AT STATION.
		By rail.	By road.	
Danville. 2,217	\$1,566,000	205	7	144
Peacham. 1,141	826,000	195	10	144
Cabot. 1,239	943,000	205	12	150
Walden. 1,090	504,000	205	15	163
Greensboro'. . . 1,015	563,000	225	15	157
Stannard. 228	111,000	225	12	157
Wheelock. 822	131,000	225	10	157
Glover. 1,179	890,000	230	8	157
Hardwick. 1,119	1,075,000	205	22	163
Woodbury. 902	445,000	204	21	163
Calais. 1,319	1,039,000	223	10	153
Wolcott. 1,132	510,000	205	20	167
Craftsbury. . . . 1,320	980,000	220	10	167

SECTION III.—ELMORE TO FLETCHER.

Elmore has 8,570 acres of timbered lands. 870,000 feet were cut in 1870, and vastly more will be when the freight car gets in motion. Sales in 1870, butter 32 tons, pork and hogs 20 tons, 381 sheep, 212 cattle, 7,134 bushels of potatoes. Not including the above, there were 185 tons outward freight, and 61 tons inward. Sales of merchandise, \$15,000; of manufactures, \$20,000. Iron deposits formerly worked. Portland & Ogdensburg stock, \$8,600.

A part of Albany will touch rail at Wolcott, with starch, live-stock, and dairy products to a large amount. There are four traders and two manufacturing firms.

Morristown, a thrifty and beautiful town, lies next. There are 8,800 acres of timber lands, from which 1,100,000 feet were cut in 1870. The same year were sold 64 tons butter, 40 tons pork, 6,000 sheep, 943 cattle, 75 horses, 8½ tons hops, 3½ tons wool, and 11,600 bushels of potatoes. In addition to the above, there were 202 tons outward and 310 tons inward freight. 120

tons sugar were made in 1871. Sales of merchandise, \$120,000; of manufactures, \$60,000. Portland & Ogdensburg stock, \$83,000. A seventy-five foot fall on the Lamoille river, a noble water-power; also, a thirty-five foot fall below. Twenty stores, houses, and work-shops erected this season.

Stow, on the south, will do the bulk of its business *via* the Portland & Ogdensburg Railroad. 12,300 acres of heavy timber land, 2,167,000 feet cut in 1870. There were sold the same year, in tons, butter 75, cheese 6, pork 66, hops 4, wool 3½; also, 20,000 bushels potatoes, 2,410 sheep, 852 cattle, 75 horses; also, \$200,000 merchandise, manufactures \$50,000. It is a lovely town in its scenery. The great Mt. Mansfield hotel accommodates 500 guests; an elegant summer resort. 400 tons outward freight, 700 tons inward, in 1870.

Hyde Park, the shire town of Lamoille county, is beautiful with broad intervals, and with mountains uplifted about it. About 2,000,000 feet of lumber are cut, yearly, from its 11,000 acres of timber land. Sales in 1870, in tons, butter 32, pork 42, hops 7, wool 5; also, 39,000 bushels potatoes, 59 horses, 1,311 sheep, 487 cattle, and poultry and beans. One firm sent \$110,000 of products to various markets in 1870. Not including the above, there were 250 tons outward freight, and 280 inward. 75 tons of maple sugar made last spring. Sales of general merchandise, \$154,000. Portland & Ogdensburg stock, \$62,000. Copper ore, and a vast bed of ochre in town; also sulphur and iron springs. A National bank, capital \$100,000.

Eden will touch rail at Hyde Park. Starch, lumber, butter, maple sugar, and live-stock are heavy items. Vast forests of spruce, fir, bass, ash, etc., remain to be cut.

Johnson, with broad river lands and huge mountains, follows next. A fall of thirty feet on the Lamoille, and of twenty-three feet on Eaton branch,—excellent privileges. A valuable mine of soap-stone here. Sales of merchandise, \$100,000. Woolens, lumber, water-tubing, etc., manufactured. Spruce very abundant. Great yield of maple sugar and butter. Portland & Ogdensburg stock, \$62,000.

Belvidere will bring to the Johnson station the products of her vast spruce, hemlock, maple, birch, and ash forests, and of her cooperage industry; also, her maple sugar, potatoes, live-stock, and dairy produce. Lead and iron ores in town. Abundant water-power.

Waterville, also, has many good mill-sites not yet used, and much timber uncut. Sales, butter 20 tons, sugar 15 tons, potatoes, live-stock, and lumber; also, \$25,000 merchandise. An excellent soap-stone quarry here; has been worked some in spite of distance from railroads. Portland & Ogdensburg stock, \$12,000.

Cambridge, of magnificent scenery and unsurpassed fertility, follows in order. There are many mill-sites, two mineral springs, and 320 sugar orchards in town. Products, 1870, in tons, butter 216, cheese 8, pork 33; also, live-stock, and thousands of bushels of potatoes. A large bed of ochre is

yet unworked. Sales of merchandise, 1870, \$80,000; of agricultural produce, \$101,000; lumber, leather, etc., \$23,000. Sugar made, 1871, 153 tons. Portland & Ogdensburg stock, \$22,000.

The table annexed gives additional facts:

POPULATION.	ESTATES.	DISTANCE TO BOSTON,		DISTANCE TO PORTLAND AT STATION.
		By rail.	By road.	
Elmore..... 638	\$ 299,000	205	20	170
Albany.....1,151	712,000	235	8	167
Morristown..1,896	1,208,000	217	18	177
Stow.....2,060	1,262,000	217	10	177
Hyde Park..1,626	899,000	217	21	180
Eden..... 969	406,000	235	14	180
Johnson....1,558	969,000	217	26	184
Belvidere... 369	168,000	217	28	184
Waterville... 573	295,000	260	17	189
Cambridge..1,651	1,370,000	260	12	191

SECTION IV.—FLETCHER TO LAKE CHAMPLAIN.

Fletcher is located in the Missisco Valley, the Vermont kingdom of butter. 12,500 acres are in timber. Sales, 1870, tons, butter eighty-two, cheese five, pork fifteen; also 1,000 bushels potatoes, 150 cattle, and other live-stock. Sugar crop seventy-five tons. In 1870, sixty-three tons inward freight and fifteen tons outward, not including the other products.

Fairfield comes next, with 12,000 acres of woods, including a heavy growth of cedar. Sales, 1870, in tons, butter 225, cheese thirty-three, pork fifty-three; also 1,500 bushels potatoes, 200 cattle, 400 sheep, etc. In addition, 289 tons inward freight, and sixty-two outward. Portland and Ogdensburg stock \$48,000. Sales of merchandise \$50,000; manufactures \$65,000.

Bakersfield touches rail at Fairfield. 10,000 acres are in woods. Sales, 1870, in tons, butter eighty-two, pork fifty-one; also 400 sheep, 500 cattle, 1000 pounds each of wool and hops. In addition, inward freight 300 tons, outward ninety. Sugar and poultry large items.

Sheldon is next to Fairfield on the Portland & Ogdensburg Railroad, a land of Egyptian fertility. 7,100 acres are still in oak, ash, maple, hemlock, and butternut forest. The intervalles of the Missisco and Black rivers bear mighty burdens of forage, the uplands are the best of pasturage. Sales, 1870, in tons, cheese 115, butter seventy-eight, pork 36; also 1,500 bushels potatoes, 500 sheep, sixty cattle, and other produce. Inward freight, exclusive of the above, 640 tons, outward, seventy-seven. A magnificent water-power of fifty feet fall is still unimproved, the river drains 500 square miles. Four mineral springs with elegant hotels and long lists of cures of cancerous and cutaneous disorders, number their guests by many hundreds. The whole region is one of remarkable beauty. Portland and Ogdensburg stock, \$74,000:

Enosburg will come to the Sheldon station. It is a garden of fertility. Its product of butter, cheese, pork, live-stock, etc., is very large. Nine merchants, and manufactures of leather, lumber, and woollens.

Highgate has 5,000 acres in woods, but is a great farming town. Sales, 1870, in tons, butter ninety-two, cheese two and a half, pork thirty; also 2,000 bushels potatoes, 800 sheep, and other live-stock. 457 tons inward freight, and 75 tons outward. \$100,000 of merchandise sold; manufactures of leather, iron, and lumber. The "Great Falls" on the Missisco have eighty feet fall, a magnificent water-power, sufficient to build up a large town. "Keyes Rapids," a mile above, have sixteen feet fall. Ten feet fall at East Highgate, with scythe factory, etc., products, \$25,000. The "Mineral Springs" are near Lake Champlain, in a lovely region, with strongly impregnated sulphur water. Fishing, gunning, and yachting are special attractions. Portland and Ogdensburg stock, \$58,000.

Franklin will come to the Portland railroad at Highgate. 5,500 acres are still in cedar and ash and ordinary growth. Sales, 1870, in tons, butter 118, cheese fifty-seven, pork fifty-two; also 1,000 bushels potatoes, 500 sheep, 100 cattle, horses, wool, maple-sugar, etc. 302 tons inward and eighty-seven tons outward freight. Sales of merchandise \$100,000, of manufactures \$25,000.

Swanton, on Lake Champlain, is the western terminus of the Portland & Ogdensburg Railroad. From this point, due west, runs the "Old Ogdensburg," the official Ogdensburg & Lake Champlain Railroad, and completes the circuit from Ontario to the Atlantic. Railroads centre here from all points. The water 150 feet off shore at the lake, is as deep as at the end of the wharves at Burlington. The village stands upon the Swanton Falls of the Missisco river. The head at the falls varies from twelve to fifteen feet, and 8,000 inches are commanded at low water. Tiles for floors are cut out to the amount of \$31,000 per annum, the same being found upon the floors of the principal hotels in the country, and of the departments at Washington, as well as of banks, libraries, and other public and private structures. A beautiful red-and-white marble is also cut here for pannels, table tops, etc. The marble quarry extends nine miles. 60,000 casks of lime are burned, of very nice quality for bleaching and fine finishing; three taneries, \$75,000. Total value of manufactures \$250,000; sales of merchandise \$350,000. Portland and Ogdensburg stock \$84,000. National Bank, capital \$75,000. 1,623 acres of timber land. Inward freight, in 1870, 2,040 tons, outward 2,150 tons. Sales of produce, eighty-nine tons butter, four tons cheese, twenty tons hogs, 1,000 sheep, cattle, horses, etc.

Additional facts are as follows:

POPULATION.	ESTATES.	DISTANCE TO BOSTON,		DISTANCE TO PORTLAND AT STATION.
		By rail.	By road.	
Fletcher.... 868	\$ 665,000	260	22	194
Fairfield.... 2,893	1,595,000	270	7	205
Bakersfield. 1,404	878,000	270	14	205
Sheldon.... 1,700	1,242,000	280	0	215
Enosburg... 2,077	1,249,000	290	0	215
Highgate... 2,280	1,689,000	270	8	221
Franklin.... 1,602	1,116,000	270	10	221
Swanton.... 2,886	1,622,000	274	0	228

SECTION V.—THE BURLINGTON BRANCH.

This road, chartered as the Northern Vermont & Lake Champlain Railroad, leaves the Portland & Ogdensburg Railroad at Cambridge, touches Essex junction on the Vermont Central Railroad, 24 miles distant, and thence passes over a branch already constructed, 7 miles to Burlington. The towns immediately interested in this line are as follows:

POPULATION.	ESTATES.	DISTANCE TO BOSTON.		DISTANCE TO PORTLAND AT STATION.
		By rail.	By road.	
Burlington. 14,387	\$8 517,000	250	0	222
Essex. 2,222	1,519,000	240	0	215
Jericho. 1,757	1,573,000	240	6	209
Underhill. 1,615	1,061,000	240	10	200
Cambridge. 1,651	1,370,000	260	12	191
Westford. ... 1,237	977,000	260	6	200

The entire region traversed by it is highly fertile, and, as the figures show, is wealthy and populous. The amount of produce and merchandise certain to go upon the rail is large. The pleasure travel, also, as noticed on a former page, will be great, from Saratoga, Lakes George and Champlain, and the Adirondacks to the Green and White Mountains, Lakes Memphremagog and Willoughby, etc. Burlington, moreover and in particular, is already one of the great distributing points of New England. It is the third lumber market in the country. Its receipts last year were 120 million feet, and 22,000 car-loads of lumber left her yards for all parts of New England. In so far as this is destined to seaboard towns, the cheapest route will be *via* Portland. Portland, moreover, can compete for the trade of all these towns. She can sell them goods as cheaply as, and can lay them down at lower cost for freight than can Boston or New York. The heavier articles of merchandise, as coal, iron, salt, etc., will, during the season of navigation, reach Burlington by water. The greater part of her lighter merchandise now reaches her warehouses by rail all the year. For this part of the business, accordingly, Portland can compete all the year, to the advantage of the Portland & Ogdensburg Railroad. The right of way has already been given outright or taken in stock for 17 out of the 24 miles to be built. There is no question of the speedy construction of the road.

CHAPTER II.

EASTERN DIVISION.

SECTION I.—CONNECTICUT RIVER TO THE WHITE MOUNTAINS.

In the detailed view of this Division of the road, we begin at the Connecticut river and move thence east.

Dalton, N. H., lies on the Connecticut river, and is the westernmost town traversed by the Eastern Division of the Portland & Ogdensburg Railroad. 10,000 acres of its total 17,000 are covered with woods. Fifty million feet of pine, spruce, hemlock, and tamarac in the town, are ready for the axe of the lumberman, and vast quantities of heavy birch, maple, beech, poplar, and oak. The cleared land is rocky, but of strong soil, yielding 250 bushels potatoes per acre, and 20 of wheat. Oats, rye, and barley thrive excellently. The uplands furnish good pasturage; want of capital alone has prevented dairying from being carried on extensively. Considerable amounts of sugar are made, and 50 tons starch.

Between this town and Lunenburg, Vt., is the great water-power on the Connecticut river, before noticed. This power is really only one out of a long series situated below on the same river, and which in combination constitute the *Fifteen-mile Rapids* of the Connecticut. This tract of river must some day become the seat of extensive manufactures. The "Summer Hotel," in Dalton, is a favorite place of summer resort, it being always crowded during the season of travel. Its proprietor, the chief owner of the town, two years ago sent 4,000,000 feet of lumber to market by teams and railroads to Boston. The copper mine, here, promises well. The cupriferous vein is sixteen feet in width, extends two miles, and is bounded from the adjacent rock by clearly defined walls. A pit sunk into it at one point indicates increasing richness at greater depths. The ore nets from six to fifty per cent. To work this mine properly would require considerable capital. Its owner would gladly coöperate with the right parties for its improvement. Prof. Hitchcock has visited the mine, and judges the indications highly favorable. Dalton will furnish a large amount of lumber and considerable produce freight for the railroad. The citizens will bond the town to assist the road, will give it a depot, and almost the entire right of way.

Whitefield is the next town east, and is a place of great thrift, having already connection with the outside world by the White-Mountains Railroad. The annual sales of merchandise are \$200,000. The sales of lumber, home manufactures, and products shipped from this point amount to \$400,000. 200,000,000 feet of lumber, it is estimated, will be drawn from this town, besides large amounts of hard-wood adapted to various manufacturing purposes. 150 tons starch are produced. The up freights on the

railroad average \$1,200 per month; the down freights will average \$500 *per day* for the coming year. They are not unfrequently \$1,000 *per day*. Passenger receipts at station, July, 1870, \$2,000; August, more than \$3,000. Yearly production of lumber, 20 million feet. Bethlehem, on the south of Whitefield, contains a great stock of timber.

The Portland and Ogdensburg line upon touching the White Mountains railway finds a wide area of country opened, from which it will inevitably draw a large amount of business. The towns situated in this region formerly did business in Portland, and upon the establishment of railway connection cannot fail to be attracted to their old mart, which is so much nearer to them than Boston. These towns will now be considered.

Littleton is a thriving manufacturing and agricultural place. The yearly sales of merchandise are \$438,500. The sales of the manufactures of the town, of iron, wood, stone, leather, wool, lumber, etc., are \$673,000. Included in this estimate is the product of the woolen mill, which runs seven sets of machinery, employs seventy-five hands, and turns out a million yards of flannels, mainly colored, the dye-stuffs for which, and other materials, furnish no inconsiderable freight. Agricultural products, twenty-five tons butter, twenty-five tons sugar, 500 head of neat-cattle, seventy-five horses, 15,000 pounds wool, etc. A summer hotel, erected last year, was this season crowded, its capacity being seventy-five guests. It will be enlarged for two hundred for the coming season. A National Bank has just gone into operation, capital at the outset \$100,000, recently raised to \$125,000, and to be further enlarged. A Savings Bank is about being established. A factory for the making of scythes and agricultural implements has been built, and will commence work very soon. There are six privileges on the Ammonoosuc river employed in numerous manufactures, and three unoccupied, all within a distance of four and a half miles, and all in town.

Freight billed from Littleton station, from Oct. 1, 1870, to Oct. 1, 1871:

1st class merchandise,.....	1,083,841 pounds.
2nd " "	75,028 "
3rd " "	205,700 "
Cattle,.....	399,550 "
Starch,.....	1,060,759 "
Potatoes,.....	11,079,906 "
	14,274,782 "

Or 7,137 tons, and a fraction.

Freight to Littleton, for the same time, \$36,371.63. There is also considerable flour and corn freight, which is prepaid, estimated at \$7,500. The total inward freight is about 4,500 tons.

The passenger tickets sold at the Littleton station for the year ending Oct. 1, 1871, amounted to \$18,329.96. Those sold at the Profile House in Franconia to passengers taking rail at Littleton increase this amount about fifty per cent. This is the travel but *one way*.

Lisbon, next south of Littleton, sells \$165,000 of merchandise. \$150,000

of manufactures, and \$5,000 of mineral products. Agricultural production is \$175,000; movement of freight is estimated at 4,000 tons. The town of Lyman touches rail at Lisbon station, not large in territory, but of good thrift.

Bath, next south, sells \$75,000 merchandise, \$130,000 of manufactures. Agricultural productions estimated at \$500,000; freight in and out estimated at 5,000 tons.

Returning to the north, Lancaster on the north of Whitefield, will find a shorter route *via* the Portland & Ogdensburg Railroad to Portland than by the Grand Trunk for her thriving population and large movement of merchandise.

Carroll lies next east of Whitefield. It is a forest town. 150,000,000 feet of lumber will come to rail from it. There are six lumber mills, production six million feet; product of starch, fifty tons. Franconia, on the south, will furnish two to three hundred millions of lumber, and Jefferson, on the north, 200,000,000. There are eight lumber mills in the town; production ten million feet per year. Starch 150 tons.

Supplementary facts are subjoined:

	POPULATION.	ESTATES.	DISTANCE FROM BOSTON AT STATION.	DISTANCE FROM PORTLAND AT STATION.
Dalton.....	783	\$427,400	200	112
Whitefield.....	1,196	610,700	198	105
Carroll.....	373	245,000	198	99
Littleton,*.....	2,446	1,700,000	185	116
Bethlehem.....	998	607,000	185	116
Lisbon.....	1,848	1,337,000	175	123
Lyman.....	658	487,000	175	126
Franconia.....	649	473,000	175	126
Bath.....	1,168	1,118,000	170	131
Landaff.....	882	651,000	170	131
Lancaster.....	2,248	1,458,000	207	116
Jefferson.....	825	455,000	207	116

SECTION II.—WHITE MOUNTAINS TO FRYEBURG.

"Hart's Location" extends from the "Notch" to the west line of Bartlett. A good deal of spruce and hemlock, and some pine adapted to clapboards, are standing upon it. A flesh-colored granite here, comes out in large blocks as free from twist as a new-sawed plank; an elegant building stone.

Bartlett contains 38,000 acres, of which 23,000 are wooded. 150,000,000 feet of spruce and hemlock are ready for the lumberman. Bark for tanning is available in unlimited quantities. Maple, birch, and beech, also poplar, are abundant. There are six water-powers, one of which, "Goodrich Falls," on Ellis river, has 100 feet descent. Potatoes can be raised indefinitely. Apples will be a great crop. Sales of merchandise \$20,000.

The iron mine here will unquestionably come into improvement upon

* "The estimate made of the *real* selling value of property in this town by the Assistant Marshal engaged in the Census, 1870, was \$2,711,000."

opening up the railroad. The vein is seventeen feet wide, and is disclosed for seventy-five rods up and down the side of a mountain. It extends *through* the mountain and appears in Jackson. The mine is two and a half miles from the Portland & Ogdensburg Railroad. The ore nets seventy-five per cent., and *blasts as easily as common stone*. The great iron-masters, Sanderson & Sons, of England, some years since transported fifty tons of the ore to their works, and produced from it the very best of iron and *steel*. They offered the proprietors \$60,000 for the mine. \$100,000 were demanded, and no trade was made. There are millions of cords of wood in all the surrounding region to work the ore by "charcoal blast." Unquestionably there is no point in the country where *charcoal iron* can be produced and got to market more cheaply than here, and by the ten thousands of tons per annum. A branch can be extended from the main line of rail to the mine, when required.

Jackson contains about 29,000 acres, of which 19,000 are wooded. 100,000,000 feet of lumber are now available for use, mostly spruce and hemlock, especially spruce. It is of large size. The railroad station will be at Center Bartlett. Several water-powers are unoccupied on Ellis river. One at the village operates two saw-mills and a starch factory. There is limestone here; the quality has not been tested. Great tanning facilities.

Conway. Of the scenery of this town it is superfluous to speak, its extraordinary picturesqueness being already of world-wide celebrity. Several thousand acres are outspread in beautiful intervalles, which extend the whole length of the town, along the course of the Saco river and the line of the Portland & Ogdensburg Railroad. Potatoes, dried apples, beans, etc., are shipped. There are four water-powers, part improved. "Odell's Falls" on the Saco, at Conway Centre, have 12 feet fall, rocky bottom and banks, and ample power for large improvements. The power on the outlet of Walker's pond is one of the best in all the region, reservoir nine by one-third miles, good site, one-half mile from rail, with thousands of cords of poplar for pulp, excelsior, etc., in the vicinity. 20,000,000 feet of pine are standing in the town, hard and soft, with spruce and hemlock. Sales of manufactures, \$60,000; of merchandise, \$150,000. In Conway and Bartlett 1,500 guests are accommodated during the summer, for three months and longer. This is a great and rapidly growing business. The Portland & Ogdensburg Railroad passes through the center of the town. \$23,500 Portland & Ogdensburg stock were taken.

Fryeburg is noted for its intervalles, its lumber, and its scenery. The river lands cover 10,000 acres or more, and are natural grass lands, being largely subject to fertilization by overflows of the river in spring. Live-stock, potatoes, and oats are sold. Cattle are wintered here in large numbers, and in the summer are driven to pasture amongst the mountains. One-half of the town is wooded. 30,000,000 feet of hard and soft pine are ready to be cut. When cut, the succeeding stand is invariably pine, and the growth is very rapid. There is more lumber here than forty years

ago. The hard or "bull" pine has hitherto not been harvested, as it cannot be "driven" to market—sinking like a stone in water. It will now take rail. It makes the best of sugar and molasses boxes and casks. Hard-wood is also abundant, including ash, poplar, and oak. In addition to five smaller privileges, "Swan's Fall," on the Saco river, is an excellent site, with ample power, ledge bottom, good banks, ten feet fall, and good holding-room for lumber above. The lumber in town and above can be cut here to any amount, and put upon the rail. Product of manufactures, \$51,000, of which \$30,000 are of the tannery. Sales of merchandise, \$100,000. Portland & Ogdensburg stock, \$40,000. A good summer hotel, first-class in all its appointments, to accommodate 500 guests, should be built here; the scenery is very lovely, and a cool breeze is nearly always stirring across the intervalles to temper the heats of summer.

Sweden will do all its freighting business on the Portland & Ogdensburg Railroad, *via* Fryeburg. Its exports are chiefly live-stock, potatoes, and oats. It has two water-powers. There is considerable nice timber in this town.

Lovell will move all its freight in and out *via* the Fryeburg station. It is rich in oak, which is manufactured chiefly into molasses and sugar shooks. The supply of hard and soft pine is great, 15 million feet being ready for the axe. The manufacture of heading and sugar-boxes is about being greatly enlarged. There are six water-powers. That at the village is ample for heavy work, being fed by several ponds. A gang saw is going into operation here, with the usual line of single saws. Total value of manufactures, \$350,000. Sales of merchandise, \$50,000. Live-stock and oats sold.

The south and west parts of Stoneham will do business by the Portland and Ogdensburg Railroad. The north part will go to the Grand Trunk. Pine and hemlock lumber remains in considerable quantity. Oak is very abundant. Sugar and molasses casks are made largely. Brown ash is in good supply, birch, and poplar. Salt and other small boxes made, hoops, spools, and bobbins. Excellent pasturage in this town. Twelve water-powers.

Chatham has, it is estimated, 100 million feet of hemlock and spruce lumber, standing. No better field for tanning operations on a great scale can be found. There is a large amount of poplar. On the Cold river fertile intervalles afford excellent land for cultivation. Much of the river land is still uncleared. Orchards thrive greatly in this town. They will be largely extended now that railroad facilities are within reach,—at Conway and Fryeburg. Several good water-powers.

Stow will come to the Fryeburg station. It is a noted stock-raising town, there being wide breadths of fertile intervalle on the Cold river, and good pasturage on the uplands. It has considerable hemlock and spruce lumber. Two water-powers. Portland & Ogdensburg stock, \$2,600.

Additional facts are subjoined:

	POPULATION.	ESTATES.	DISTANCE FROM PORTLAND AT STATION.
Bartlett.....	629	\$ 353,000	66
Jackson.....	474	811,000	66
Chatham.....	445	206,000	48
Conway.....	1,607	1,049,000	55
Fryeburg.....	1,508	1,169,400	48
Sweden.....	567	364,000	48
Lovell.....	1,018	611,500	48
Stoneham.....	425	140,500	48
Stow.....	425	208,000	48

Of the above towns Conway alone will have connection with Boston by Boston-controlled railroads, the distance being 130 miles. This town mainly, and the other towns wholly, even if they do a part of their business in Boston, will move their freight in and out *via* Portland.

SECTION III.—FRYEBURG TO LAKE SEBAGO.

Brownfield, next east of Fryeburg on the line of rail, has 10,000 acres of fertile intervalle land, with a large amount of hemlock, spruce, oak, and ash lumber. The railroad will stimulate the various manufactures of wood. Sales of merchandise, \$30,000; of manufactures, \$28,000.

Denmark sells \$50,000 of merchandise; of hoops, shooks, staves, clothes pins, etc., \$18,000; of poultry, pork, beef, butter, apples, eggs, etc., \$23,000. Large quantities of poplar, birch, red and white oak; beech, maple, hemlock, and pine timber. Large preparations for increased manufacture. Ten most excellent water-powers on the outlet stream of Moose pond, covering 1,700 acres, are yet mainly unimproved; also other good privileges.

Hiram is a town of great undeveloped manufacturing capacity. It has within its limits twenty-five water-powers. Nine of these are located upon the Hancock stream, the outlet of reservoir ponds of 2,500 acres. The total fall upon the stream is over 300 feet. The ponds, if properly improved for storage, would add very materially also to the manufacturing capacity of the Saco river, to which the stream is tributary. In addition to these and to other smaller powers, there are two excellent sites on the Great Ossipee river between Hiram and Parsonsfield, between the site of "Warren's Mill" and Kezar Falls, each with twelve feet head. This river is very permanent, being fed by large ponds, which are in fact the main source of supply to the mills at Saco and Biddeford in the summer. The privileges referred to are accordingly susceptible of a vast amount of work. Below these privileges on the same stream, and on the dividing line of Hiram and Cornish, are two most excellent manufacturing sites. The first, "Allen's Falls," is half a mile above the junction with the Saco. It formerly had a dam upon it with ten feet head, and a grist-mill. "Warren's Mill Site" is about one and a half miles from Cornishville. Saw and grist-mills formerly upon it, both burned in 1849, not since

rebuilt. Fall ten feet or more. The "Great Falls" of the Saco will be noticed presently.

An insignificant proportion of the power is now in use, in manufactures of lumber, cabinet ware, cooperage stock, etc. Sales of merchandise \$125,000. The power in this town, if improved in proportion to that at Bridgton, would turn out several million dollars in manufactures. Portland and Ogdensburg stock, \$10,000. Pine, hemlock, spruce, oak, and poplar, in great abundance.

Baldwin contains in addition to ten small privileges, one half of the "Great Falls" of the Saco, the other half falling in Hiram. The fall is seventy-two feet in fifty-five rods. The bed and shores are mostly ledge, and the banks are sufficiently high to escape serious overflow. The power in an extreme drought is estimated at 150,000 spindles; for ten months of every year, and for the whole of nearly every year, is much greater. No improvement.

Also, half a mile below, a rapid known as the "Great Falls' Wife," ten feet fall, a good site, and ample for heavy operations. Also, on the same river, and on the line of Limington, "Highland Rips," fifteen feet fall in forty rods; power in a drought estimated at 32,000 spindles. No improvement.

Next to no use of its great power is made in this town. Lumber, rakes, spokes, etc., manufactured to the amount of \$11,600. Portland and Ogdensburg stock, \$7,000.

Cornish, Parsonsfield, and Porter, will touch rail at Baldwin chiefly. Cornish has three small water-powers, in addition to the important ones, mentioned above, on the boundary line of Hiram. Manufactures of clothing and carriages, \$100,000. Sales of merchandise, \$150,000. 1,200 tons freight, in and out.

Parsonsfield manufactures lumber, clothing, sleighs, hardware, etc. The freight bills of one trader are \$1,400. Sales of merchandise, \$100,000. It has on the dividing line of Porter three large and excellent manufacturing sites, on the Great Ossipee river. First, "Kezar Falls," about which a flourishing village has gathered, has fifty feet fall available, improved in part in two dams, and various lumber and other mills. Second, "French's Falls," above, on the same river; fall, nine feet; unimproved. Third, "South-River Falls," above, eight feet fall; not improved. The river is steady in volume, being fed by great ponds, and is free from severe freshets.

Porter has in addition to its share in the above-mentioned three privileges, seven small manufacturing sites on small streams. Sundry lumber manufactures, etc., \$30,000. Sales of merchandise, \$40,000. Tons freight, in and out, 1,000.

The towns of Freedom, Effingham, and Ossipee, in New Hampshire, lying upon the head waters of the Great Ossipee river, now run and will continue to run their lumber largely down the river, to be cut up by its

water-powers, or at Steep Falls on the Saco, from which point it will take rail to Portland.

Standish lies next east of Baldwin on the rail. It has great manufacturing capabilities. Within the town are seven small water-powers, and on its borders as follows: First—"Steep Falls," on the Saco river, in the north-west part of the town; fall, 40 feet in three-fourths of a mile; two million feet of lumber are sawed annually; not over one-third of the total fall is used. The whole power in a drought is estimated at 87,000 spindles. It is an admirable site in every way. Second—"Union Falls," on the Saco river, near Steep Falls; height, 26 feet in 80 rods; power estimated at 1,400 horse-power, or 26,000 spindles. Third—"Limington Falls," a mile below; 65 feet in one-third of a mile; lumber mills; power estimated at 141,000 spindles.

In addition to these, are several privileges on the boundary line of Windham, which will be noticed presently. The sum of power in use in this town is, at present, comparatively insignificant. The value of manufactures, chiefly lumber and clothing, in 1870, was, however, \$385,000. Sales of merchandise, \$110,000. Portland & Ogdensburg stock, \$20,000.

Limington shares with Standish the possession of the three great water-powers on the Saco, mentioned above. It has, in addition, two privileges on Little Ossipee river,—“Nason's Falls,” 66 feet in one-fourth of a mile, with several mills thereon, and secondly, “Chase's Falls,” 35 feet, lumber mills thereon. There are three small privileges in addition to these. Eight merchants.

	POPULATION.	ESTATES.	DISTANCE FROM PORTLAND AT STATION.
Brownfield.....	1,324	\$ 499,000	43
Denmark.....	1,070	560,000	43
Hiram.....	1,394	600,000	36
Baldwin.....	1,101	513,000	80
Cornish.....	1,101	621,000	30
Parsonsfield.....	1,894	1,264,000	30
Porter.....	1,105	561,000	30
Standish.....	2,095	985,000	25
Limington.....	1,630	1,135,000	25

SECTION IV.—LAKE SEBAGO COUNTRY.

Several towns lying upon Lake Sebago and the navigable waters above it, for six months of the year are tributary to the Portland & Ogdensburg Railroad by steam and sail craft, at the Lake Sebago station. For the other six their business is distributed to several stations on the line from Brownfield to Windham.

Bridgton is one of the most thriving of the lake towns. It has twenty-two water-powers, all of them fed by reservoirs. Not over two-thirds of the available power is yet in use. Manufactures of wool, lumber, leather, machinery, carriages, etc., in large variety, are carried on to the amount of over \$600,000. A large machine shop and foundry are about going into

operation, to do \$30,000 business. A shovel-handle factory is getting ready for work, to cut out 30,000 dozen handles per year. Sales of merchandise, \$300,000. Tons of freight, in and out, 4,000.

Harrison, like Bridgton, carries on manufactures in addition to agricultural business. The product of mechanical industry in 1870 was \$164,000. There are four water-powers. Wire, woolens, and agricultural implements are manufactured. Operations are enlarging, steam being employed in addition to water. Sales of merchandise, \$65,000.

Naples is chiefly a farming town. It has six water-powers, partially improved. Mechanical products in 1870 were \$30,000. Cooperage is quite an item. Sales of merchandise, \$60,000. Inward freight, 600 tons; outward, 10,000 shooks, 300,000 hoops, also barrels, mackerel kids, staves, apples, potatoes, wood,—say 4,000 tons in all.

Casco has twenty-one water-powers, nine of which, on the outlet of Pleasant pond, are good privileges, but little affected by either drought or freshet. A small part of the power is yet in use. Lumber, leather, starch, etc., turned out to the value of \$70,000 in 1870. Sales of merchandise, \$50,000.

Raymond is mainly an agricultural town. There are 9,000 acres of timber land. It has six water-powers, fed by ponds summing five square miles. A most excellent privilege is on the outlet of Panther Pond, improved in part in saw, grist, and plaster mills. Power about half used. Mechanical products, \$10,000. Sales of merchandise, \$40,000. Tons freight, including shooks 20,000, hoops 100,000; staves 25 to 75,000, ship-timber, plank, apples, cider, potatoes, beans, 200 cords wood; also, 4,000 bushels corn, plaster, general merchandise 350 tons, etc., say 4,000 to 5,000 tons in all.

Sebago has six water-powers, five of which are on the outlet of a pond covering one and a half square miles. Only one is in use. A large amount of manufactures could be carried on here. Mechanical product, 1870, \$7,500.

	POPULATION.	ESTATES.	DISTANCE FROM PORTLAND AT LAKE SEBAGO STATION.
Bridgton,.....	2,685	\$1,710,000	17
Harrison,.....	1,222	609,000	17
Naples,.....	1,058	537,000	17
Casco,.....	1,198	488,000	17
Raymond,.....	1,122	458,000	17
Sebago,.....	803	351,000	17

SECTION V.—LAKE SEBAGO TO PORTLAND.

Windham is an excellent farming town, and will be at no distant day the seat of extensive manufactures. There are four manufacturing privileges upon the portion of the Presumpscot river that divides this town from Standish, as follows: First, "Wescott's Falls," at the outlet of Sebago Lake, height fourteen feet; part improved. Second, "Eelweir Rips," below, twelve feet fall, unimproved. Third, "Hubble Falls," eight feet, unimproved. Fourth, "Steep Falls, twelve feet, a dam, no other improve-

ment. These privileges are fed by ninety-four square miles of reservoir, fifty of which are commanded by one dam. One hundred horse-powers to each foot of fall can be realized upon the Presumpscot river. Accordingly the above four powers represent 4,600 horse-power, or 184,000 spindles. The stream is narrow, requires only short dams, is entirely exempt from freshets as well as water-drought, and is beyond question the most valuable manufacturing river of its class in New England; its superior cannot be found anywhere.

Upon the same river, below, and on the boundary line of Gorham and Windham, are nine manufacturing sites, as follows: First—"Harden's Falls," 11 feet head, improved on the Gorham side. Second—"Great Falls," 16 feet head, partially improved. Third—"Whitney's Falls," 14 feet head, unimproved. Fourth—"Island Falls," 10 feet head, unimproved. Fifth—"Dundee Falls," 18 feet head, unimproved. Sixth—"Leavitt's Falls," 12 feet head, unimproved. Seventh—"Gambo Falls," 16 feet head, fully improved. Eighth—"Little Falls," 17 feet head; a great paper-mill, four stories high, with capacity to manufacture ten tons per day, and employing three hundred hands, is going up here. Ninth—"Mallison Falls," 18 feet head, partly improved in lumber and woolen manufacture. Upon this privilege a great wood-pulp and paper mill is soon to be erected. The above privileges sum 13,200 horse-power, or 528,000 spindles. Suitably improved, they will sustain, directly, a population of 52,000 persons, to say nothing of the large agricultural population in the surrounding region that would settle around the several manufacturing sites. The Portland & Ogdensburg line passes directly by the lower two privileges, and a branch will at no remote time be extended to the head of the river, passing directly by the site of each fall. In the case of these privileges, as of those above noticed, the supply of water is beyond contingency, the outlet of the lake being under perfect control, water dearth, accordingly, and freshet being unknown and impossible.

In addition to the above, are seven valuable water-powers upon Pleasant river, which is fed by Little Sebago lake, a sheet of water covering five square miles, and constituting, accordingly, with a storage depth of seven feet now held upon it, a reservoir of great capacity. The privileges are as follows: First—"Narrows Falls," 10 feet, unimproved. Second—"Legrow's Falls," below, 10 feet, unoccupied. Third—"Carney's Falls," below, 10 feet, part occupied. Fourth—"Andrew's Falls," below, 8 feet, not improved. Fifth—"Pope's Falls," 10 feet, woolen, saw, and stave mills. Sixth—"Allen's Falls," 7 feet, no improvement. Seventh—"Baker's Falls," 10 feet, part used.

The proximity of Windham to market, and the accessibility of its manufacturing sites, give them a value far beyond that attached to privileges otherwise equally good but more remote. The manufactures of the town will average over \$400,000 per year, including the whole of the Oriental

Powder Company's. Sales of merchandise estimated at \$134,000. Portland & Ogdensburg stock, \$42,600.

Gorham is a town of noted agricultural productiveness, and of large manufacturing capability. It shares with Windham possession of nine of the great manufacturing sites of the Presumpscot, and upon the borders of this stream the bulk of wealth and population will before many years settle. The extension of the branch railroad from the Portland & Ogdensburg up the river to its head will greatly hasten this inevitable destiny, and promote vastly the increase of numbers and resources. Sales of merchandise estimated at \$236,000, of which \$101,000 will be accommodated by the Portland & Ogdensburg Railroad. Value of manufactures, \$100,000; of agricultural products, \$249,000; acres of woodland, 5,631. As manufactures are extended in this town the Portland & Ogdensburg Railroad will receive a very large proportion of its total freighting business, passing, as it does and will, directly by its entire series of water-powers. The Portland & Rochester Railroad now passes through the main village, and commands from it an important amount of business, especially in the transportation of passengers.

Westbrook, a part of whose passenger and freight business will come upon the Portland & Ogdensburg Railroad, is a rich, populous, and growing municipality. Manufactures in 1870, \$3,500,000. Two great water-powers on the Presumpscot river are mainly improved for manufactures, at Saccarappa and Cumberland mills, the products of the paper-mill at the latter being a million dollars per annum.

	POPULATION.	ESTATES.
Windham.....	2,426	2,029,000
Gorham.....	3,886	2,891,000
Westbrook.....	6,680	6,582,000

The population of Portland, the eastern terminus of the Portland & Ogdensburg Railroad, is 31,408; nominal valuation for purposes of taxation, \$29,439,000. Portland & Ogdensburg stock taken, \$985,300. Products of industry in 1870, \$8,865,000. Sales of merchandise for the year ending April 30th, 1869, the last for which reliable data can be had, as reported by the Assistant Assessor of Revenue, \$31,149,732. The taxable sales of manufactures for the same period were \$5,700,661; total, \$36,850,393.



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